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OF

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VOLUME 2

15 SEPTEMBER 1969

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LINCOLN LABORATORY

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Volume 2 of Unclassified Publications of Lincoln Laboratory lists unclassified reports published from 15 September 1966 to 15 September 1969. In addition, it includes older reports that have become unclassified through the system for automatic downgrading and declassification of classified information.

Unclassified Publications of Lincoln Laboratory, 15 September 1966, which lists unclassified reports issued from 1951 to 1966, should be retained. Its Supplements 1, 2, and 3, dated 15 April 1967, 15 November 1967, and 15 September 1968, may be destroyed, since all the material therein is contained in Volume 2.

All reports listed herein, including Journal Articles and Meeting Speeches which are followed by DDC numbers, have been deposited with the Defense Documentation Center, Cameron Station, Building 5, Alexandria, Virginia 22314, and are available to authorized users upon request.

Accepted for the Air Force  
Franklin C. Hudson  
Chief, Lincoln Laboratory Office

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## QUARTERLY TECHNICAL SUMMARIES

### GENERAL RESEARCH

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15 November 1966	AD-645776	15 May 1968	AD-670832
15 February 1967	AD-650401	15 August 1968	AD-675291
15 May 1967	AD-654662	15 November 1968	AD-680221
15 August 1967	AD-658834	15 February 1969	AD-685213
15 November 1967	AD-664057	15 May 1969	AD-690249
15 February 1968	AD-666712	15 August 1969	AD-694054

### SPACE COMMUNICATIONS

	<u>DDC No.</u>		<u>DDC No.</u>
15 September 1963	AD-433602	15 March 1967	AD-812567
15 December 1964	AD-456509	15 June 1967	AD-818213
15 March 1965	AD-461528	15 September 1967	AD-820967
15 June 1965	AD-468636	15 December 1967	AD-826016
15 September 1965	AD-473102	15 March 1968	AD-831081
15 December 1965	AD-477580	15 June 1968	AD-838299
15 March 1966	AD-480755	15 September 1968	AD-843053
15 June 1966	AD-486272	15 December 1968	AD-846887
15 September 1966	AD-802943	15 March 1969	AD-851886
15 December 1966	AD-806010	15 June 1969	AD-856179

## SEMIANNUAL TECHNICAL SUMMARY REPORTS TO ADVANCED RESEARCH PROJECTS AGENCY

### GRAPHICS

	<u>DDC No.</u>
30 November 1966	AD-643821
31 May 1967	AD-653191
30 November 1967	AD-663728
31 May 1968	AD-671125
30 November 1968	AD-679991
31 May 1969	AD-689782

### SEISMIC DISCRIMINATION

	<u>DDC No.</u>
31 December 1966	AD-646677
30 June 1967	AD-657327
31 December 1967	AD-664872
30 June 1968	AD-673354
31 December 1968	AD-682297
30 June 1969	AD-691434

## QUARTERLY REPORTS

### SOLID STATE RESEARCH

	<u>DDC No.</u>
1966:2	AD-639064
1966:3	AD-641498
1966:4	AD-647688
1967:1	AD-651065
1967:2	AD-656548
1967:3	AD-661275
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	<u>DDC No.</u>
1968:1	AD-668762
1968:2	AD-672961
1968:3	AD-678534
1968:4	AD-681141
1969:1	AD-687100
1969:2	AD-690997

### RADIO PHYSICS AND ASTRONOMY

	<u>DDC No.</u>
1965:1	AD-629923
1966:1	AD-645324

### OPTICS RESEARCH

	<u>DDC No.</u>
1969:1	AD-855883

DECLASSIFIED  
QUARTERLY PROGRESS REPORTS

DIVISION 2  
AIRCRAFT CONTROL AND WARNING

	<u>DDC No.</u>		<u>DDC No.</u>
1 June 1952	ATI-172737	15 May 1956	AD-110280
15 August 1954	AD-45743	15 November 1956	AD-137601
15 November 1954	AD-55744	15 February 1957	AD-147495
15 February 1955	AD-63562	15 May 1957	AD-150881
15 August 1955	AD-79340	15 August 1957	AD-110020
15 February 1956	AD-100344		

DIVISION 3  
COMMUNICATIONS AND COMPONENTS

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15 October 1954	AD-51986	15 July 1955	AD-77139
15 April 1955	AD-71339		

DIVISION 4  
RADIO PHYSICS

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15 January 1961	AD-256491	15 February 1964	AD-433769

DIVISION 4  
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15 August 1954	AD-44515	15 February 1955	AD-64024
15 November 1954	AD-52054		

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15 March 1959	AD-214566	15 March 1963	AD-405575
15 June 1959	AD-225649		



# TECHNICAL REPORTS

<u>TR No.</u>				<u>DDC No.</u>
2	Some Mathematical Remarks on the Boolean Machine	I. S. Reed	19 Dec. 1951	ATI-165903
3	Use of a Delay-Line Memory to Reduce Radar Pulse-Type Interference (Wildcatting)	T. F. Rogers L. A. Ames J. A. Dumanian	21 Feb. 1952	ATI-165380
4	A Moving-Coordinate Radar Display: Operator Limitations	F. R. Naka B. B. Welles	20 Mar. 1952	ATI-165374
5	Multiplexing a Radio Teletype System Using a Random Carrier and Correlation Detection	B. J. Pankowski	16 May 1952	ATI-168857
6	Echo-Box Pulse Doppler Radar	L. D. Smullin R. H. Fox	6 May 1952	ATI-172738
52	Project Phoenix: A Rapid Data-Transmission System	J. M. Jarema J. L. Breitbord J. F. Leary	16 July 1954	AD-53351
53	An Application of Aural Presentation: Preliminary Report of Project Buzz Saw	A. S. Soltes J. I. Elkind P. H. Baldwin W. H. Huggins J. C. R. Licklider	30 July 1954	AD-42958
66	Digital Detection of Signal in Noise	I. S. Reed G. P. Dinneen	10 Sept. 1954	AD-52554
87	Flight Tests of the Ground-Wave Radar	C. A. Stutt S. J. Fricker M. L. Stone R. P. Ingalls W. T. Quinn	31 Aug. 1956	AD-98864
88	Performance of the Lincoln F9C Radioteletype System	P. E. Green, Jr.	28 Oct. 1955	AD-80345
90	Final Report on the Development of SAGE Height-Finder Remoting Equipment	P. B. Sebring	4 Aug. 1955	AD-82489
94	A Frequency-Shift Teletype System for Ionospheric Scatter Circuits	J. Granlund D. J. Gray W. E. Morrow, Jr.	25 Aug. 1955	AD-82490
96	Height Finding Over the Sea with UHF Radar Using Multipath Propagation	N. I. Durlach J. Freedman M. A. Herlin M. M. Kessler J. Margolin	29 Aug. 1955	AD-79412
97	Miss-Distance Measurements on the Test Firing of the Porcupine I-A System	E. W. Pike	7 Oct. 1955	AD-82488

# Technical Reports

<u>TR No.</u>				<u>DDC No.</u>
105	Porcupine Low-Altitude Weapons System	Division 4	7 Dec. 1955	AD-94715
109	Model Studies on Predicted-Fire Antiaircraft Systems	E. W. Pike J. H. Hurvitz	8 Mar. 1956	AD-99322
118	A VHF Gas-Tube Duplexer for Long-Range Radar Application	J. W. Meyer E. S. Rosenblum	4 May 1956	AD-100290
122	Cross Polarization of Radar Targets at X-Band	W. J. Jones J. Margolin	31 Aug. 1956	AD-98865
125	A Low-Altitude Radar System	M. D. Rubin	11 Apr. 1957	AD-147493
126	Phase One of Joint Lincoln Laboratory - Ordnance Corps Tests of T-49 Radar and Computer.	J. R. Sandison S. H. Wright R. L. Segal W. J. Wollenberg	7 Mar. 1957	AD-147499
127	A Comparison of Selected ICBM Early-Warning Radar Configurations	G. H. Pettengill D. E. Dustin	13 Aug. 1956	AD-98862
128	A Long-Range Radar Warning System for the Detection of Intercontinental Ballistic Missiles	M. I. Skolnik	15 Aug. 1956	AD-98863
131	An Approach to the Data-Processing Problem for an ICBM Warning System	P. B. Sebring	23 Jan. 1957	AD-110013
140	Status Report - Lincoln Laboratory AICBM Program		2 Jan. 1957	AD-150861
147	An Automatic Pulse-Doppler Radar for Detecting and Tracking Low-Altitude Targets	J. G. Barry	30 Jan. 1957	AD-137713
148	UHF Auroral Observations	S. J. Fricker R. P. Ingalls M. L. Stone S. C. Wang	13 Feb. 1957	AD-137714
149	Clutter-Locked MTI for Ship-board Radar	J. Margolin D. H. Griffin B. H. Labitt	18 Feb. 1957	AD-137715
207	A Method of Pulse Compression Employing Nonlinear Frequency Modulation	E. L. Key E. N. Fowle R. D. Haggarty	13 Aug. 1959	AD-235293
231	Sequential Encoding and Decoding for the Discrete Memoryless Channel	B. Reiffen	12 Aug. 1960	AD-247612
257	Secondary Emission Characteristics of High-Power Microwave-Tube Surfaces	A. Vierstra R. C. Butman	20 Feb. 1962	AD-274554

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<u>TR No.</u>				<u>DDC No.</u>
294	Photo-Ionized Cloud as Source for Decrease in Backscatter Cross Section of Re-entering Body	E. L. Murphy	17 Jan. 1963	AD-401310
307	The Measurement of Electron Density in the Wake of a Hypervelocity Pellet Over a Six-Magnitude Range	M. Labitt	15 Apr. 1963	AD-407965
351	Beam Pulse Heating	E. Silverman	13 Apr. 1964	AD-443662
402	Scattering of Electromagnetic Waves: A Lincoln Laboratory Symposium	J. W. Meyer G. F. Pippert R. T. Prosser J. Rheinstein S. L. Borison P. C. Fritsch B. Reiffen J. Ruze A. J. Bogush, Jr. T. Hagfors R. D. Kodis J. V. Evans J. H. Chisholm	27 Sept. 1965	AD-487898
402	Effect of Electron Irradiation on Electronic Devices	A. G. Stanley	3 Nov. 1965	AD-489617
	Supplement		3 Nov. 1965	AD-483434L
409	Switched-Beam Antenna System for LES-1 and LES-2	R. N. Assaly J. B. Rankin L. J. Ricardi	16 Dec. 1965	AD-489413
410	X-Band Receiving Antenna for LES-4	M. L. Rosenthal	22 Dec. 1965	AD-482651
411	Theory and Design Data for Uniformly Dissipative, Doubly Terminated Bandpass and Lowpass Filters	J. W. Craig	24 Feb. 1966	AD-642747
414	Backscatter from Spheres: Short Pulse View	J. Rheinstein	27 Apr. 1966	AD-642547
415	X-Band Transmitting Antenna for LES-4	J. B. Rankin	28 Apr. 1966	AD-801329
416	Experimental Study of Sub-reflector Support Structures in a Cassegrainian Antenna	F. I. Sheftman	23 Sept. 1966	AD-646225
418	Electronic Instrumentation of the M.I.T. Gamma-Ray Telescope for the Orbiting Solar Observatory	W. G. Schmidt D. H. Galvin, Jr. R. W. Rasche J. K. Roberge F. W. Sarles, Jr.	9 May 1966	

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<u>TR No.</u>				<u>DDC No.</u>
419	Radar Scattering from a Low-Cross-Section Shape	J. H. Pannell	27 May 1966	AD-489778
420	Application of Transversal Equalizer to Radar Receiver with Emphasis on Doppler Sensitivity	R. C. Yost E. B. Smith	23 June 1966	AD-640892
421	Large Aperture Seismic Array Capabilities	P. E. Green, Jr. R. V. Wood, Jr.	12 July 1966	AD-639197
422	Radar Location for Complete Coverage of Representative Threat-Volumes	S. D. Ewing, Jr. D. Caldwell	15 Aug. 1966	AD-644826
424	Mutual Coupling in Array Antennas	J. L. Allen B. L. Diamond	4 Oct. 1966	AD-648153
425	General Relativity and Its Effects on Planetary Orbits and Interplanetary Observations	M. J. Tausner	7 Oct. 1966	AD-650730
426	Microwave Scattering Parameters for New England Rain	R. K. Crane	3 Oct. 1966	AD-647798
428	A Theoretical Analysis and Experimental Confirmation of the Optimally Loaded and Over-driven RF Power Amplifier	D. M. Snider	7 Nov. 1966	AD-647799
429	Theory, Design and Performance of a Ring Circulator	S. D. Ewing, Jr. J. A. Weiss	17 Jan. 1967	AD-650582
430	Millstone Hill Thomson Scatter Results for 1964	J. V. Evans	15 Nov. 1967	AD-668436
431	The Lincoln Experimental Terminal	J. W. Craig W. R. Crowther P. R. Drouilhet, Jr. J. N. Harris F. E. Heart B. H. Hutchinson I. L. Lebow P. G. McHugh B. E. Nichols P. Rosen S. B. Russell J. Tierney	21 Mar. 1967	AD-661577
432	Automatic Satellite Geosynchronization	A. A. Braga-Illa	21 Mar. 1967	AD-815344
433	Radiation Characteristics of Loop Antennas Excited by Transients	A. R. Dion	14 Apr. 1967	AD-656345
435	LCAO Secular Determinant Program	D. Esterling	12 June 1967	AD-659749

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436	Short-Pulse Scattering by a Hemisphere	S. D. Weiner	18 July 1967	AD-658836
437	Decision-Feedback Equalization for Digital Communications Over Dispersive Channels	M. E. Austin	11 Aug. 1967	AD-664926
438	LES-5 Triplexer	A. Sotiropoulos	31 Aug. 1967	AD-823174
440	Design of Transmission Lines and Waveguide Structures Using the Maximum Principle	J. Burchfiel	5 June 1968	AD-675145
441	Spectral Line Interferometry and Interferometer Noise Analysis	A. E. E. Rogers	16 Jan. 1968	AD-666038
442	Time Optimal Control for a Class of Common Random Disturbances	N. P. Smith	2 Feb. 1968	AD-667521
443	Charged Particle Radiation Environment in Synchronous Orbit	A. G. Stanley J. L. Ryan	15 May 1968	AD-677284
444	A Radar Interferometer Study of Venus at 3.8 cm	A. E. E. Rogers T. Hagfors R. A. Brockelman R. P. Ingalls J. I. Levine G. H. Pettengill F. S. Weinstein	14 Feb. 1968	AD-670167
445	Design Studies for a 440-Foot-Diameter Radio and Radar Telescope	H. G. Weiss	20 Feb. 1968	AD-668474
446	A Shallow-Cavity UHF Crossed-Slot Antenna	C. A. Lindberg	8 Mar. 1968	AD-672763
447	Parallel Channels Without Crosstalk	J. Max	9 Apr. 1968	AD-673479
450	The Lincoln Satellite Technology Program Through 1 January 1968 - An Annotated Bibliography	H. Sherman D. C. MacLellan P. Waldron	12 June 1968	AD-679559
451	Antenna System for LES-5	M. E. Devane D. J. Frediani B. F. LaPage M. L. Rosenthal A. Sotiropoulos	18 July 1968	AD-684167
454	Optical Communication Through Multiple-Scattering Media	H. M. Heggstad	22 Nov. 1968	

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455	Theory of Active Nonreciprocal Networks	W. M. Libbey	4 Feb. 1969	AD-691435
456	Reflection Properties of Venus at 3.8 cm	R. P. Ingalls R. A. Brockelman J. V. Evans J. I. Levine G. H. Pettengill L. P. Rainville A. E. E. Rogers F. S. Weinstein	6 Sep. 1968	AD-681467
457	The Microwave System of the Haystack Planetary Radar	C. W. Jones	23 Oct. 1968	AD-685696
459	LES-6 Triplexer	D. R. Bold A. Sotiropoulos	2 Dec. 1968	AD-686418
464	Effect of Diffusion on Gain Saturation in CO <sub>2</sub> Lasers	H. A. Haus C. Freed C. P. Christensen	7 Feb. 1969	AD-689397
465	LES-6 Antenna System	R. N. Assaly M. E. Devane E. F. LaPage M. L. Rosenthal A. Sotiropoulos	10 Mar. 1969	AD-693197

## GROUP REPORTS

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1964-29	A Study of Radar Clutter in TRADEX	G. R. Curry	25 May 1964	AD-441068
1965-6	Design Aspects of Minimal-Power Digital Circuitry	W. G. Schmidt D. E. Chace	9 Feb. 1965	AD-612769
1965-12	El Campo Solar Radar Antenna Modification	M. E. Devane	8 Feb. 1965	AD-612150

# TECHNICAL NOTES

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1965-20	Analysis of Radiation Effects in Telemetry Circuits	A. G. Stanley	21 July 1965	AD-619387
1965-32	A Generalization of Newtonian Aerodynamic Theory to Include Viscous Effects	H. Schneider	26 July 1965	AD-468972
1965-41	Some Practical Considerations for Reducing the Surface Resistivity of X-Band Components	A. H. Kessler	13 June 1966	AD-635472
1966-12	Lincoln Accelerator Laboratory	C. L. Mack, Jr.	2 Sept. 1966	AD-639962
1966-15	Haystack Pointing System: Digital Equipment Organization	P. D. Smith	10 Oct. 1966	AD-641641
1966-17	High Speed Tunnel Diode Transistor Micrologic Circuits	Y. Cho	20 July 1966	AD-637815
1966-18	Topics on the Calculation of Atmospheric Ionization Following Nuclear Explosions	F. L. Ek	8 Feb. 1966	AD-488430
1966-20	A Concise Representation of Certain Types of Signal Processing in Communications Satellites	J. U. Beusch B. Reiffen	2 Mar. 1966	AD-479434
1966-23	A Computer Signal-Processing Approach for the Shapiro Fourth Test of the General Theory of Relativity	E. Gehrels L. G. Kraft	2 Sept. 1966	AD-639733
1966-24	Haystack Display Translator	S. R. Russell	10 Oct. 1966	AD-640914
1966-26	Solar Plasma Measurements	J. D. McCarron	21 July 1966	AD-637998
1966-32	Cross Sections of Two Independently Observed Randomly Oriented Dipoles	J. C. Fielding	6 July 1966	AD-487439
1966-33	Lincoln Experimental Terminal Timing and Frequency Control	N. L. Daggett	4 Aug. 1966	AD-638198
1966-34	"Matched" Polynomial Least-Squares Fitting and Application to Real-Time Ballistic Coefficient Estimation	H. Schneider	26 July 1966	AD-637669
1966-35	Prediction of Ballistic Cloud Trajectories from Radar Maps	F. C. Schweppe H. K. Knudsen	20 July 1966	AD-487241
1966-38	A Study of the Capability of a LASA to Aid the Identification of a Seismic Source	H. W. Briscoe R. M. Sheppard	11 July 1966	AD-637283

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1966-40	General-Purpose I/O Channel and Interface for Haystack 490 Computer	J. E. Gillis A. F. Dockrey S. B. Russell	10 Oct. 1966	AD-641640
1966-41	The Quality of the Lincoln Calibration Sphere	M. L. Burrows	22 Aug. 1966	AD-638442
1966-44	Anti-Jam Effectiveness and System Complexity	J. Max	15 Aug. 1966	AD-489779
1966-46	Navigation with High-Altitude Satellites: A Study of Ranging Errors	T. J. Goblick, Jr.	26 Aug. 1966	AD-643851
1966-47	A Model of Radar Scattering from the Cone-Sphere	S. D. Weiner	20 Oct. 1966	AD-646853
1966-48	An Investigation of the Parameters Affecting Microwave Breakdown in the Upper Atmosphere	A. B. Gschwendtner	9 Sept. 1966	AD-489843
1966-49	Maximum Likelihood Trajectory Determination from Radar Data	A. R. Warwas S. C. Wang	27 Oct. 1966	AD-642334
1966-50	Signal Processing Characteristics of the Peripheral Auditory System	T. J. Goblick, Jr. R. R. Pfeiffer	30 Sept. 1966	AD-645781
1966-52	Directivity of an Array of Slots on the Surface of a Cylinder	L. J. Ricardi	10 Oct. 1966	AD-641959
1966-53	Survey on Earth Albedo	L. P. Whitehill	11 Oct. 1966	AD-643649
1966-54	A Preliminary Study of Klystron Distortion in a CHIRP Radar System	H. M. Heggstad	28 Dec. 1966	AD-646346
1966-55	Haystack Pointing System: Scan	W. R. Crowther	1 Nov. 1966	AD-643171
1966-56	Haystack Pointing System: Radar Coordinate Correction	C. A. Clarke	24 Oct. 1966	AD-641603
1966-59	Noise Temperature of Airborne Antennas at UHF	G. Ploussios	6 Dec. 1966	AD-644829
1966-61	Autotracking of Satellites from the Ground Through the 8 - 12 $\mu$ m Atmospheric Window	P. R. Longaker J. H. Dennis R. J. Keyes	7 Dec. 1966	AD-805353
1966-61 Supp. 1	Autotracking of Satellites from the Ground Through the 8 - 12 $\mu$ m Atmospheric Window	P. R. Longaker J. H. Dennis R. J. Keyes	13 July 1967	AD-819117
1966-63	Coherent Pulse Transmission Through Rain	R. K. Crane	27 Dec. 1966	AD-646623



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1966-64	Observations of Inner and Outer Zone Electrons Since December 1965	J. L. Ryan V. J. Sferrino	28 Dec. 1966	AD-649139
1967-1	Planar Representations of Complex Graphs	R. M. Baecker	6 Feb. 1967	AD-646133
1967-2	Three Fortran Programs That Perform the Cooley-Tukey Transform	N. M. Brenner	28 July 1967	AD-657019
1967-3	FASTABUL (A Fast Automatic STAtion BUlletin Program)	P. L. Fleck, Jr.	6 Jan. 1967	AD-646207
1967-4	Magnetic Film Memory Evaporation System	C. G. Ryan	6 Jan. 1967	AD-647209
1967-6	On the Equivalence of Linearized Kalman Filters	M. Athans	11 Jan. 1967	AD-646550
1967-7	Monte Carlo Simulation of the Flow of a Rarefied Gas Around a Cylinder	A. W. Starr	18 Jan. 1967	AD-647124
1967-8	An Approach to Target Tracking	M. Gruber	10 Feb. 1967	AD-654272
1967-9	Vocoded Speech in the Absence of the Laryngeal Frequency	A. J. Goldberg B. Gold, Editor	3 Apr. 1967	AD-651253
1967-10	Operational Low-Power, Low-to High-Frequency Digital Circuit Elements: Refinements, Characteristics and Developments	D. E. Chace	24 Jan. 1967	AD-650779
1967-11	Navigation with High-Altitude Satellites: A Study of Errors in Position Determination	D. L. Snyder	6 Feb. 1967	AD-648828
1967-12	VITAL Compiler - Compiler System Reference Manual	L. F. Mondschein	8 Feb. 1967	AD-649140
1967-13	Revision of the Kwajalein Atmospheric Model	J. E. Salah	8 Feb. 1967	AD-808876
1967-14	Kwajalein Standard Atmosphere	J. E. Salah	14 Feb. 1967	AD-808686
1967-15	A Theorem on Spin-Eigenfunctions	T. A. Kaplan W. H. Kleiner	24 May 1967	AD-652840
1967-16 Rev. 1	Stable Equilibrium Orientation of a Spacecraft Which Contains a Momentum Wheel	J. U. Beusch	10 May 1968	AD-669806
1967-17	Survey of Satellite Communication Antennas	A. R. Dion	18 May 1967	AD-661578

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1967-18	Navigation with High-Altitude Satellites: A Study of the Effects of Satellite-User Geometry on Position Accuracy	C. D. Sullivan	24 Feb. 1967	AD-651863
1967-19	An Associative Processing System for Conventional Digital Computers	P. D. Rovner J. A. Feldman	21 Apr. 1967	AD-655810
1967-20	Electron Irradiation of P-Channel Junction FETs	A. G. Stanley	13 Apr. 1967	AD-651760
1967-21	Wave Optical Aspects of Lorentz Microscopy	M. S. Cohen	10 May 1967	AD-652497
1967-24	Project MAPOLE (Magnetic Dipole Spark Transmitter)	M. P. Fraser	22 May 1967	AD-656706
1967-25	Trajectory Equations of Motion in Radar Polar Coordinates	S. F. Catalano	24 May 1967	AD-652841
1967-26	Design of Seismic Arrays for Efficient On-Line Beamforming	J. Capon R. J. Greenfield R. T. Lacoss	27 June 1967	AD-655142
1967-27	Micropower Error-Correcting Redundant Circuit Design	R. E. McMahon N. B. Childs	23 Aug. 1967	AD-659750
1967-29	Earth Coverage from a Circularly Symmetric Shaped-Beam Antenna on a Synchronous Satellite	J. B. Rankin	27 June 1967	AD-656707
1967-30	Response of Seismic Arrays to Wide-Band Signals	E. J. Kelly	29 June 1967	AD-656344
1967-31	Cooperative Scattering by Dielectric Spheres	R. K. Crane	6 July 1967	AD-657328
1967-33	Electroreflectance Study of Interband Magneto-Optical Transitions in InAs and InSb at 1.5°K	S. B. Groves J. Feinleib C. R. Pidgeon	6 Sept. 1967	AD-658835
1967-34	Identification of Systems in Terms of the Wiener Model	C. R. Arnold	22 Aug. 1967	AD-659159
1967-35	Biased Velocity Estimates Due to Phase-Center Motion	S. L. Borison	27 Aug. 1967	AD-659817
1967-44	Values of LASA Time Station Residuals, Velocity and Azimuth Errors	R. M. Sheppard, Jr.	8 Sept. 1967	AD-662004
1967-45	A Resynchronization Technique for a Sequential Decoder	G. Blustein	24 Oct. 1967	AD-660865

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<u>TN No.</u>				<u>DDC No.</u>
1967-47	X-Band Cylindrical Lens Antenna	A. Sotiropoulos	26 Oct. 1967	AD-664570
1967-48	A Trajectory Analysis Program (TRAP)	A. Bertolini	29 Sept. 1967	AD-663227
1967-50	Long-Period Signal Processing Results for Large Aperture Seismic Array	J. Capon R. J. Greenfield R. T. Lacoss	15 Nov. 1967	AD-663429
1967-51	The Givens-Householder Method for Finding Eigenvalues and Eigenvectors of Real Symmetric Matrices	D. C. Walden	26 Oct. 1967	AD-661277
1967-52	Present Status of Cadmium Sulfide Thin Film Solar Cells	A. G. Stanley	13 Dec. 1967	AD-667519
1967-54	Tables of Hemisphere Scattering Amplitude for Nose-On Incidence	S. D. Weiner	29 Nov. 1967	AD-662866
1967-55	Scattering Patterns and Statistics of a Long Wire	S. Hong	26 Dec. 1967	AD-666472
1967-58	Application of Large Aperture Array Techniques to Tsunami Warning	P. E. Green, Jr. R. J. Greenfield	29 Dec. 1967	AD-828319
1968-3	Some Observations of Weak Japanese Earthquakes at the Montana LASA	R. M. Sheppard E. J. Kelly H. W. Briscoe	5 Jan. 1968	AD-665122
1968-4	Preliminary Design of a Long-Period Seismic Array for Norway	R. T. Lacoss J. Capon R. J. Greenfield	24 Jan. 1968	AD-665424
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1968-7	Haystack Antenna Reflector Surface Improvement Program	D. G. Stuart	29 Jan. 1968	AD-667518
1968-8	A Study of Two Short-Period Discriminants	E. J. Kelly	12 Feb. 1968	AD-666701
1968-10	Synchronous Satellite Station-keeping Simulation	M. C. Crocker E. H. Swenson	15 May 1968	AD-672960
1968-11	Dipole High-Power Breakdown Experiments	G. B. Morse	8 Aug. 1968	AD-841035
1968-12	A Digitally Controlled Satellite Frequency Synthesizer	J. B. Connolly	9 Apr. 1968	AD-670854
1968-13	Thick Film Layout Considerations	R. E. McMahon H. H. Pichler	12 Apr. 1968	AD-670573

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1968-14	A Seismic Data Analysis Console	P. L. Fleck	19 June 1968	AD-671961
1968-15	Investigation of Long Period Noise at LASA	J. Capon	3 June 1968	AD-671509
1968-16	Improved Ferrimagnetic Single-Crystal Sphere Orienter	G. F. Dionne P. S. Crocker J. F. Smith	17 July 1968	AD-673355
1968-17	Pressure Distributions on Sphere-Cone Radomes in Uniform and Gradient Flows	R. D'Amato W. R. Fanning	2 May 1968	AD-670168
1968-18	Lincoln Experimental Satellite-5 (LES-5) Transponder Performance in Orbit	W. W. Ward B. E. Nichols	1 Nov. 1968	AD-686421
1968-19	LESTR-2 Telemetry Ground System	J. H. Helfrich	17 June 1968	AD-672959
1968-20	Design Procedure and Measured Performance of the LES-6 UHF Transmitter	R. E. Dolbec	19 July 1968	AD-679691
1968-21	RLC Realizations of Approximations to Matched Filters for a Rectangular Pulse	J. W. Craig	30 July 1968	AD-673883
1968-23	Determination of LASA Detection and Location Ability Using Kurile Islands Events	R. M. Sheppard, Jr.	1 Oct. 1968	AD-678515
1968-24	Numerical Simulation of the Attitude Equations of a Satellite Containing Damping Rotors and a Reaction Wheel	R. W. Brockett N. M. Brody	15 Nov. 1968	AD-679992
1968-25	Semiconductor Processing Applied to Integrated Circuit Fabrication	R. A. Cohen R. W. Mountain	26 Aug. 1968	AD-679560
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1968-33	Simultaneous Radar and Radiometer Measurements of Rain Shower Structure	R. K. Crane	18 Sept. 1968	AD-678079	
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1969-15	Feasibility of Low Data Rate Mobile Troposcatter Communication Systems	D. P. White	30 Apr. 1969	AD-690995
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2186	A More General Property Than Dominance for Sets of Probability Measures	T. S. Pitcher	Pacific J. Math., <u>15</u> , Pt. 2 (1965)
2314	A Spectral Analysis of Central Force Motion	R. T. Prosser	Accepted J. Math. Phys.
2355	The Bandwidth of the Abrupt-Junction Varactor-Frequency Doubler	A. I. Grayzel	IEEE Trans. Circuit Theory <u>CT-13</u> , 52 (1966), DDC AD-641001
2466	An Integral Expression for the Log Likelihood Ratio of Two Gaussian Processes	T. S. Pitcher	J. SIAM Appl. Math. <u>14</u> , 228 (1966), DDC AD-642214
2473	Adsorption Theory from the Viewpoint of Order-Disorder Theory	J. M. Honig	Chap. 11, <u>The Solid Gas Interface</u> , E. A. Flood, Ed. (Marcel Dekker, New York, 1967)
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2509	Properties of Mercury Chalcogenides	T. C. Harman	<u>Physics and Chemistry of II-VI Compounds</u> (North-Holland, Amsterdam, 1967), DDC AD-653688
2514A	A Per Letter Converse to the Channel Coding Theorem	B. Reiffen	IEEE Trans. Inform. Theory <u>IT-12</u> , 475 (1966), DDC AD-651721
2518	Free Carrier Magneto-optical Effects	E. D. Palik G. B. Wright	<u>Semiconductors and Semimetals</u> , Vol. 3 (Academic, New York, 1967)
2525	Interband Magneto-optical Effects	B. Lax J. G. Mavroides	<u>Semiconductors and Semimetals</u> , Vol. 3 (Academic, New York, 1967)
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2576	Random Sampling of Random Processes: Impulse Processes	O. A. Z. Leneman	Inform. and Control <u>9</u> , 347 (1966), DDC AD-644540
2577	Random Sampling of Random Processes: Optimum Linear Interpolation	O. A. Z. Leneman	J. Franklin Inst. <u>281</u> , 302 (1966), DDC AD-641008
2580	Particle Sizes of Clay Minerals by Small-Angle X-Ray Scattering	R. J. Arnott	Am. Mineralogist <u>50</u> , 1563 (1965), DDC AD-630370
2581	Magnetic Quantum Effects	P. N. Argyres L. M. Roth	<u>Semiconductors and Semimetals</u> , Vol. 1 (Academic, New York, 1967)
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| 2591  | Properties of InAs Lasers   | I. Melngailis                     | J. Appl. Phys. <u>37</u> , 899 (1966), DDC AD-642173                     |
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| 2594A | Reduction of the Electromagnetic Vector Potential to the Irreducible Representations of the Inhomogeneous Lorentz Group and Manifestly Covariant Quantization with a Positive-Definite Metric for the Hilbert Space | H. E. Moses                       | Nuovo Cimento <u>42A</u> , 757 (1966), DDC AD-641006                     |
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| 2602  | Introduction to the Theory of Exciton States in Semiconductors  | J. O. Dimmock                     | <u>Semiconductors and Semimetals</u> , Vol. 3 (Academic, New York, 1967) |
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| 2628  | On "Mean-Square Reconstruction Error"   | O. A. Z. Leneman<br>J. B. Lewis   | IEEE Trans. Automat. Control <u>AC-11</u> , 324 (1966), DDC AD-642192    |
| 2632  | Mean-Square Error of Step-Wise Interpolation for Various Sampling Schemes   | O. A. Z. Leneman<br>J. B. Lewis   | J. Franklin Inst. <u>282</u> , 108 (1966), DDC AD-644544                 |
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2668	Polaron Energy Spectrum	D. M. Larsen	Phys. Rev. <u>144</u> , 697 (1966), DDC AD-642204
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2720	Optimum Sampling and Quantizing Rates	L. M. Goodman	Proc. IEEE (Correspondence) <u>54</u> , 90 (1966), DDC AD-636371
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2725	Thermodynamic Aspects of the Temperature-Pressure Phase Diagram of InTe	M. D. Banus P. M. Robinson	J. Appl. Phys. <u>37</u> , 3771 (1966), DDC AD-648763
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| 2732 | Large Cross-Linked Polystyrene Slab Suffers Thermal Fatigue                              | E. B. Murphy                                   | SPE J. <u>22</u> , No. 4, 53 (1966), DDC AD-642227                         |
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| 2754 | Large Radar Shield Fabricated at Ground Level  | P. Stetson                                     | Civil Eng. (ASCE) <u>42</u> (June 1966), DDC AD-642223                     |
| 2755 | Asymptotically Optimum Pre-Emphasis and De-Emphasis Networks for Sampling and Quantizing | L. M. Goodman<br>P. R. Drouilhet, Jr.          | Proc. IEEE (Correspondence) <u>54</u> , 795 (1966), DDC AD-642231          |
| 2757 | Electron-Beam Pumped Lasers of CdSe and CdS  | C. E. Hurwitz                                  | Appl. Phys. Letters <u>8</u> , 121 (1966), DDC AD-642201                   |

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2760	Polaron Induced Anomalies in the Interband Magnetoabsorption of InSb	E. J. Johnson D. M. Larsen	Phys. Rev. Letters <u>16</u> , 655 (1966), DDC AD-641004
2761	Effects of Electron Irradiation of Metal-Nitride-Semiconductor Insulated Gate Field-Effect Transistors	A. G. Stanley H. A. R. Wegener	Proc. IEEE (Correspondence) <u>54</u> , 784 (1966), DDC AD-640529
2762	Electron Bombardment Technique for Deposition of CdS Film Transducers	R. Weber	Rev. Sci. Instr. <u>37</u> , 955 (1966), DDC AD-642217
2763	Oblique-Incidence Magnetic Anisotropy in Codeposited Alloy Films	M. S. Cohen	J. Appl. Phys. <u>38</u> , 860 (1967), DDC AD-654854
2765	Study of Radio Echoes from the Moon at 23 Centimeters Wavelength	J. V. Evans T. Hagfors	J. Geophys. Res. <u>71</u> , 4871 (1966)
2766	Spontaneous and Coherent Photoluminescence in $Cd_{1-x}Hg_xTe$	I. Melngailis A. J. Strauss	Appl. Phys. Letters <u>8</u> , 179 (1966), DDC AD-642208
2768	Anomaly in the X-Ray Scattering of ZnSe	P. M. Raccach R. J. Arnott A. Wold	Phys. Rev. <u>148</u> , 904 (1966), DDC AD-642216
2770	Interleaving of Pseudorandom Sequences for Synchronization	L. I. Bluestein	IEEE Trans. Aerospace Electron. Syst. <u>AES-4</u> , 551 (1968)
2773	Aural Pulse Compression by Bats and Humans	J. J. G. McCue	J. Acoust. Soc. Am. <u>40</u> , 545 (1966), DDC AD-648764
2774	Generalization of the Ruderman-Kittel-Kasuya-Yosida Interaction for Nonspherical Fermi Surfaces	L. M. Roth H. J. Zeiger T. A. Kaplan	Phys. Rev. <u>149</u> , 519 (1966), DDC AD-648765
2775	The Cutoff Frequency of a Varactor Diode with Variable Series Resistance	A. I. Grayzel	Proc. IEEE (Correspondence) <u>54</u> , 875 (1966), DDC AD-642168
2776	Efficient Visible Lasers of $CdS_xSe_{1-x}$ by Electron-Beam Excitation	C. E. Hurwitz	Appl. Phys. Letters <u>8</u> , 243 (1966), DDC AD-642200
2778	Equilibrium Spin Configuration and Resonance Behavior of $RbMnF_3$	P. H. Cole W. I. Ince	Phys. Rev. <u>150</u> , 377 (1966), DDC AD-648263
2779	Conic Display Generator Using Multiplying Digital-Analog Converters	L. G. Roberts	IEEE Trans. Electron. Computers <u>EC-16</u> , 369 (1967), DDC AD-658796

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2780	Design of Composite Magnetic Circuits for Temperature Stabilization of Microwave Ferrite Devices	E. Stern W. J. Ince	IEEE Trans. Microwave Theory Tech. MTT-15, 295 (1967), DDC AD-658786
2781	Work Function Changes Due to the Chemisorption of Water and Oxygen on Aluminum	E. E. Huber, Jr. C. T. Kirk	Surface Sci. 5, 447 (1966), DDC AD-646492
2782	Recursive, Complex Fourier Analysis for Real-Time Applications	J. M. Halberstein	Proc. IEEE (Correspondence) 54, 903 (1966), DDC AD-642222
2783	Operating Characteristics from Yes-No and Forced-Choice Procedures	A. I. Schulman R. R. Mitchell	J. Acoust. Soc. Am. 40, 473 (1966), DDC AD-642221
2784	Comments on "A Large Signal Analysis Leading to Intermodulation Distortion Prediction in Abrupt Junction Varactor Up-Converters"	A. I. Grayzel	IEEE Trans. Microwave Theory Tech. MTT-15, 183 (1967)
2785	The Earth's Dust Belt: Fact or Fiction?	I. I. Shapiro D. A. Lautman G. Colombo	J. Geophys. Res. 71, 5695 (1966), DDC AD-652115
2786A	Generalized Surface Harmonics	H. E. Moses	Ann. Phys. 41, 166 (1967), DDC AD-651625
2787A	Integration of the Infinitesimal Generators of the Inhomogeneous Lorentz Group and Application to the Transformation of the Wave Function	H. E. Moses	Ann. Phys. 41, 158 (1967), DDC AD-651534
2788	Reduction of the Electromagnetic Vector Potential to the Irreducible Representations of the Inhomogeneous Lorentz Group. II. Quantization of the Electromagnetic Vector Potential in an Angular Momentum Basis	H. E. Moses	Nuovo Cimento 48A, 43 (1967), DDC AD-655314
2790	Finite Temperature Theory for Attenuation of Quasi-Particle Excitations in Real Metals	R. W. Davies	J. Phys. Chem. Solids 28, 1001 (1967)
2793	The $\epsilon$ -Entropy and $\epsilon$ -Capacity of Certain Time-Varying Channels	R. T. Prosser	J. Math. Anal. Appl. 16, 553 (1966), DDC AD-646472
2794	High-Temperature Expansions - The Classical Heisenberg Model	H. E. Stanley T. A. Kaplan	Phys. Rev. Letters 16, 981 (1966), DDC AD-642220
2795	Radar Ground-Clutter Shields	J. Ruze F. I. Sheftman D. A. Cahlander	Proc. IEEE 54, 1171 (1966), DDC AD-648766

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2796	Comparison of the Theoretical $O^{++}$ Form Factors with Experiment	P. M. Raccach R. J. Arnott	Phys. Rev. <b>153</b> , 1028 (1967), DDC AD-651719
2797	Radar Observations of Venus at 3.8-cm Wavelength	J. V. Evans R. P. Ingalls L. P. Rainville R. R. Silva	Astron. J. <b>71</b> , 902 (1966), DDC AD-653360
2798	A Model for Shifts in the Gate Turn-On Voltage of Insulated-Gate Field-Effect Devices Induced by Ionizing Radiation	A. G. Stanley	IEEE Trans. Electron Devices <b>ED-14</b> , 134 (1967), DDC AD-654856
2802	Observation of the Interaction of Plasmons with Longitudinal Optical Phonons in GaAs	A. Mooradian G. B. Wright	Phys. Rev. Letters <b>16</b> , 999 (1966), DDC AD-642230
2804	Coherent Pulse Transmission Through Rain	R. K. Crane	IEEE Trans. Antennas Propag. <b>AP-15</b> , 252 (1967), DDC AD-654939
2805	Spin Waves in Paramagnetic Fermi Gases	L. L. VanZandt	Phys. Rev. <b>162</b> , 399 (1967), DDC AD-663684
2806	Laser Properties of a Vapor-Grown Ruby	J. R. O'Connor P. S. Schaffer R. A. Bradbury	Appl. Phys. Letters <b>8</b> , 336 (1966), DDC AD-642171
2807	The Last of the West Ford Dipoles	I. I. Shapiro	Science <b>154</b> , 1445 (1966), DDC AD-653675
2808	Failure-Erasure Circuitry: A Duplicative Technique of Failure-Masking Systems	J. B. Connolly W. G. Schmidt	IEEE Trans. Electron. Computers <b>EC-16</b> , 82 (1967), DDC AD-653674
2809	A Sequential Decoding Technique and Its Realization in the Lincoln Experimental Terminal	I. L. Lebow P. G. McHugh	IEEE Trans. Commun. Tech. <b>COM-15</b> , 477 (1967)
2811	Superconducting Transition Temperature and Electronic Structure in the Pseudobinary $Nb_3Al-Nb_3Sn$ and $Nb_3Sn-Nb_3Sb$	F. J. Bachner J. B. Goodenough H. C. Gatos	J. Phys. Chem. Solids <b>28</b> , 889 (1967)
2815	The Rotation of the Planet Mercury	G. Colombo I. I. Shapiro	Astrophys. J. <b>145</b> , 296 (1966), DDC AD-642209
2816	Band Structure and Laser Action in $Pb_xSn_{1-x}Te$	J. O. Dimmock I. Melngailis A. J. Strauss	Phys. Rev. Letters <b>16</b> , 1193 (1966), DDC AD-642225
2818	Improved Method of Optimizing Longitudinal Magneto-Optical Transmission-Scattering in Thin Magnetic Films	D. O. Smith K. J. Harte	Optica Acta <b>14</b> , 351 (1967), DDC AD-667871

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| 2822  | Electroreflectance in Metals   | J. Feinleib   | Phys. Rev. Letters <u>16</u> , 1200 (1966), DDC AD-642224                |
| 2823B | Directivity of an Array of Slots on the Surface of a Cylinder                    | L. J. Ricardi   | Electron. Eng. <u>39</u> , 578 (1967),<br>DDC AD-668239                  |
| 2824  | Incoherent Source Optical Pumping of Visible and Infrared Semiconductor Lasers   | R. J. Phelan, Jr.   | Proc. IEEE (Correspondence) <u>54</u> , 1119 (1966), DDC AD-642196       |
| 2825  | Efficient Coding of Vocoder Channel Signals Using Linear Transformation          | W. R. Crowther<br>C. M. Rader   | Proc. IEEE (Correspondence) <u>54</u> , 1594 (1966), DDC AD-646471       |
| 2827  | Efficient Ultraviolet Laser Emission in Electron-Beam-Excited ZnS                | C. E. Hurwitz   | Appl. Phys. Letters <u>9</u> , 116 (1966),<br>DDC AD-648761              |
| 2832  | First Order Raman Effect in III-V Compounds                                      | A. Mooradian<br>G. B. Wright  | Solid State Commun. <u>4</u> , 431 (1966), DDC AD-649186                 |
| 2833  | Computer Control of the Haystack Antenna   | F. E. Heart<br>A. A. Mathiasen  | Proc. IEEE <u>54</u> , 1742 (1966),<br>DDC AD-654277                     |
| 2834  | Multidimensional Maximum-Likelihood Processing of a Large Aperture Seismic Array | J. Capon<br>R. J. Greenfield<br>R. J. Kolker                                  | Proc. IEEE <u>55</u> , 192 (1967),<br>DDC AD-651722                      |
| 2836  | Stokes Parameters for 1665-Megacycles-per-Second Emission from OH near Source W3 | M. L. Meeks<br>J. A. Ball<br>J. C. Carter<br>R. P. Ingalls                    | Science <u>153</u> , 978 (1966),<br>DDC AD-644783                        |
| 2837  | Low Temperature Crystallographic and Magnetic Study of $\text{LaCoO}_3$          | N. Menyuk<br>K. Dwight<br>P. M. Raccach                                       | J. Phys. Chem. Solids <u>28</u> , 549 (1967), DDC AD-653689              |
| 2840  | Radar Observations of Venus at 23cm in 1965/1966                                 | J. V. Evans<br>R. A. Brockelman<br>E. N. Dupont<br>L. B. Hanson<br>W. A. Reid | Astron. J. <u>71</u> , 897 (1966),<br>DDC AD-648056                      |
| 2843  | High Speed Electromagnetic Shutter   | J. S. Pirroni<br>R. R. Stevens  | Rev. Sci. Instr. <u>38</u> , 382 (1967),<br>DDC AD-654851                |
| 2847  | Maser Model for Interstellar OH Microwave Emission                               | M. M. Litvak<br>A. L. McWhorter<br>M. L. Meeks<br>H. J. Zeiger                | Phys. Rev. Letters <u>17</u> , 821 (1966), DDC AD-648050                 |
| 2848  | Measurement of Absorption-Line Profiles with a Fabry-Perot Interferometer        | R. J. Hull<br>L. C. Bradley   | J. Opt. Soc. Am. <u>57</u> , 11 (1967),<br>DDC AD-653410                 |



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| 2850  | High-Temperature Expansions for the Classical Heisenberg Model. I. Spin Correlation Function   | H. E. Stanley  | Phys. Rev. <u>158</u> , 537 (1967), DDC AD-658762                  |
| 2851  | An Optimal Singular Solution for the Sounding Rocket with Altitude-Dependent Parameters  | K. Kresa   | J. Spacecraft <u>4</u> , 124, (1967), DDC AD-651528                |
| 2852  | High Pressure Synthesis of Arsenopyrite-Type Ternary Compounds   | M. D. Banus<br>M. C. Lavine  | Materials Res. Bull. <u>1</u> , 3 (1966), DDC AD-646477            |
| 2853  | Possibility of a Phase Transition for the Two-Dimensional Heisenberg Model   | H. E. Stanley<br>T. A. Kaplan  | Phys. Rev. Letters <u>17</u> , 913 (1966), DDC AD-646485           |
| 2857  | Unusual Crystal-Field Energy Levels and Efficient Laser Properties of $\text{YVO}_4:\text{Nd}$   | J. R. O'Connor   | Appl. Phys. Letters <u>9</u> , 407 (1966), DDC AD-653372           |
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| 2871  | Reduction of Reducible Representations of the Infinitesimal Generators of the Proper, Orthochronous, Inhomogeneous Lorentz Group                                     | H. E. Moses<br>J. S. Lomont  | J. Math. Phys. <u>8</u> , 837 (1967), DDC AD-658764                |

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| 2875 | Virial Theorem for the Homogeneous Electron Gas   | P. N. Argyres                             | Phys. Rev. <u>154</u> , 410 (1967),<br>DDC AD-653396                                       |
| 2878 | Low Temperature Absolute Reflection Measurements of Small Samples                           | J. Feinleib<br>B. Feldman                 | Rev. Sci. Instr. <u>38</u> , 32 (1967),<br>DDC AD-653673                                   |
| 2879 | Electrooptic Effect in Trigonal Selenium at 10.6 $\mu$ m                                    | M. C. Teich<br>T. A. Kaplan               | IEEE J. Quant. Electron. <u>QE-2</u> ,<br>702 (1966), DDC AD-653412                        |
| 2880 | Communications via Several Satellites Using the Lincoln Experimental Terminal               | I. L. Lebow                               | <u>Progress in Astronautics and Aeronautics</u> , Vol. 19 (Academic Press, New York, 1966) |
| 2883 | Electron Temperature and Ion Composition in the F <sub>1</sub> Region                       | J. V. Evans                               | J. Geophys. Res. <u>72</u> , 3343 (1967),<br>DDC AD-658912                                 |
| 2884 | Midlatitude F-Region Densities and Temperatures at Sunspot Minimum                          | J. V. Evans                               | Planet. Space Sci. <u>15</u> , 1387 (1967)   |
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| 2887 | Spark-Source Mass Spectroscopy  | E. B. Owens                               | Appl. Spectroscopy <u>21</u> , 1 (1967),<br>DDC AD-653414                                  |
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| 2891 | New Phase Transformation in InSb at High Pressure and High Temperature                      | M. D. Banus<br>M. C. Lavine               | J. Appl. Phys. <u>38</u> , 2042 (1967),<br>DDC AD-658915                                   |
| 2892 | On the Design of Optimum Radar Waveforms for Clutter Rejection                              | D. F. DeLong, Jr.<br>E. M. Hofstetter     | IEEE Trans. Inform. Theory <u>IT-13</u> ,<br>454 (1967), DDC AD-667873                     |

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| 2897  | Photovoltaic Effect in $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ Diodes   | I. Melngailis<br>A. R. Calawa                                     | Appl. Phys. Letters <u>9</u> , 304 (1966),<br>DDC AD-648772                     |
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| 2900  | Quantum Kinetic Equations for Electrons in Random Impurities  | P. N. Argyres<br>E. S. Kirkpatrick                                | Ann. Phys. <u>42</u> , 513 (1967),<br>DDC AD-658909                             |
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| 2908A | The Lincoln Experimental Satellite Program (LES-1, -2, -3, -4)  | H. Sherman  | J. Spacecraft <u>4</u> , 1448 (1967),<br>DDC AD-663685                          |
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| 2911  | Application of Nanosecond Light Pulses to Ballistic Range Measurements  | W. G. Clay<br>R. E. Slattery<br>A. J. Ferdinand<br>D. R. Kilcline | AIAA J. <u>5</u> , 364 (1966),<br>DDC AD-653498                                 |

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| 2916  | Heat Flow in High-Temperature Crystal Growth   | T. B. Reed   | J. Phys. Chem. Solids Suppl., 39 (1967)                                  |
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2932	High Power and Efficiency in CdS Electron Beam Pumped Lasers	C. E. Hurwitz	Appl. Phys. Letters <u>2</u> , 420 (1966), DDC AD-653364
2937	Donor Level Associated with (100) Conduction Band in S-Doped GaSb	B. B. Kosicki W. Paul A. J. Strauss G. W. Iseler	Phys. Rev. Letters <u>17</u> , 1175 (1966)
2939	Fourier Expansion for the Electronic Energy Bands in Silicon and Germanium	G. F. Dresselhaus M. S. Dresselhaus	Phys. Rev. <u>160</u> , 649 (1967), DDC AD-662302
2940	Channel Encoders	L. M. Goodman	Proc. IEEE (Correspondence) <u>55</u> , 127 (1967), DDC AD-653413
2941	Retrograde Solubility in n-Type PbS	A. J. Strauss	Trans. Met. Soc. AIME <u>239</u> , 794 (1967), DDC AD-661148
2942	Observation of Degenerate Stimulated Four-Photon Interaction and Four-Wave Parametric Amplification	R. L. Carman R. Y. Chiao P. L. Kelley	Phys. Rev. Letters <u>17</u> , 1281 (1966), DDC AD-658792
2943	A Study of the Depolarization of Lunar Radar Echoes	T. Hagfors	Radio Sci. <u>2</u> , 445 (1967)
2945	Data Considerations for Planetary Space Science Photography	L. R. Malling	IEEE Trans. Commun. Tech. <u>COM-15</u> , 665 (1967)
2946	InSb MOS Infrared Detector	R. J. Phelan, Jr. J. O. Dimmock	Appl. Phys. Letters <u>10</u> , 55 (1967), DDC AD-653365
2948	The Electrical Properties and Band Structure of Doped $\text{LaInO}_3$	D. B. Rogers J. M. Honig J. B. Goodenough	Materials Res. Bull. <u>2</u> , 223 (1967), DDC AD-652116
2951	Measurement of Multipath Effects in Satellite-Aircraft UHF Link	K. L. Jordan, Jr.	Proc. IEEE (Correspondence) <u>55</u> , 1117 (1967), DDC AD-658917
2955	Photo and Thermal Effects in Compensated Zinc Doped Germanium	R. J. Keyes	J. Appl. Phys. <u>38</u> , 2619 (1967), DDC AD-661153
2959	Varactor Multiplier Arrays for Increased Power Handling Capability	D. Parker A. I. Grayzel	Proc. IEEE (Correspondence) <u>55</u> , 437 (1967), DDC AD-654863
2961	Micropower Redundant Circuits Correct Errors Automatically	R. E. McMahon N. B. Childs	Electronics <u>40</u> , No. 3, 66 (1967), DDC AD-655313
2962	The GaAs-InSb Graded-Gap Heterojunction	E. D. Hinkley R. H. Rediker	Solid-State Electron. <u>10</u> , 671 (1967)

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| 2963A | Inversion of Conduction and Valence Bands in $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$ Alloys  | A. J. Strauss  | Phys. Rev. <u>157</u> , 608 (1967),<br>DDC AD-658771                            |
| 2964  | Temperature Dependence, Orientation Correlation, and Molecular Fields in Second-Harmonic Light Scattering from Liquids and Gases   | D. L. Weinberg   | J. Chem. Phys. <u>47</u> , 1307 (1967),<br>DDC AD-664441                        |
| 2965  | Identification of the Fundamental Vibrational Modes of Trigonal, $\alpha$ -Monoclinic and Amorphous Selenium                       | G. Lucovsky<br>A. Mooradian<br>W. Taylor<br>G. B. Wright<br>R. C. Keezer | Solid State Commun. <u>5</u> , 113 (1967)                                       |
| 2966  | The Insertion Loss of Transmission Lines Used in Matching Networks   | L. J. Ricardi  | IEEE Trans. Microwave Theory Tech. <u>MTT-16</u> , 189 (1968),<br>DDC AD-671290 |
| 2967  | Landau Damping of Magnetoplasma Waves for General Closed Fermi Surfaces  | A. L. McWhorter<br>J. N. Walpole   | Phys. Rev. <u>158</u> , 719 (1967),<br>DDC AD-661149                            |
| 2968  | Nonlocal Effects in Low-Field Helicon Propagation in PbTe  | J. N. Walpole<br>A. L. McWhorter   | Phys. Rev. <u>158</u> , 708 (1967),<br>DDC AD-661150                            |
| 2970  | Discussion of Paper by F. L. Scarf, "Effect of Coherent Density Fluctuations on the Radar Determination of Total Electron Content" | T. Hagfors   | J. Geophys. Res. <u>72</u> , 4595 (1967)  |
| 2971  | The Negative Gamma Varactor  | A. I. Grayzel  | Proc. IEEE (Correspondence) <u>55</u> , 469 (1967), DDC AD-655317               |
| 2972  | A Direct Derivation of the Optimal Linear Filter Using the Maximum Principle   | M. Athans<br>E. Tse  | IEEE Trans. Automat. Control <u>AC-12</u> , 690 (1967),<br>DDC AD-673596        |
| 2973  | The Crystal Structure of Neodymium Monotelluroxide- $\text{Nd}_2\text{O}_2\text{Te}$   | P. M. Raccach<br>J. M. Longo<br>H. A. Eick                               | Inorg. Chem. <u>6</u> , 1471 (1967),<br>DDC AD-658765                           |
| 2975  | Kyoto: the Physics of Semiconductors   | B. Lax<br>J. G. Mavroides  | Phys. Today <u>20</u> , No. 5, 101 (1967)                                       |
| 2976  | A Binary Linear Transformation for Redundancy Reduction  | L. M. Goodman  | Proc. IEEE (Correspondence) <u>55</u> , 467 (1967), DDC AD-653668               |
| 2977  | Interband Magnetoreflexion and Band Structure of HgTe  | S. H. Groves<br>R. N. Brown<br>C. R. Pidgeon                             | Phys. Rev. <u>161</u> , 779 (1967)  |
| 2978  | Magnetoplasma Cyclotron Absorption in PbSe   | S. Bermon  | Phys. Rev. <u>158</u> , 723 (1967),<br>DDC AD-658770                            |

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2980	Scattering by Infinite Cylinders of Arbitrary Cross-Section by the Method of Finite Differences	M. L. Burrows	Electron. Letters <u>3</u> , 119 (1967), DDC AD-654866
2981	Reduction of Relativistic Wavefunctions to the Irreducible Representations of the Inhomogeneous Lorentz Group. II. Zero Mass Components	H. E. Moses	J. Math. Phys. <u>9</u> , 16 (1968), DDC AD-673600
2982	On Finite Pulsewidth Sampling	O. A. Z. Leneman	IEEE Trans. Commun. Tech. <u>COM-15</u> , 718 (1967), DDC AD-662174
2983	An Analog Comparator as a Pseudo-Light Pen for Computer Displays	K. H. Konkle	IEEE Trans. Computers <u>C-17</u> , 54 (1968), DDC AD-670770
2986	Comment on "Content-Addressed Memory Using Magneto- or Electro-Optical Interrogation"	D. O. Smith K. J. Harte	IEEE Trans. Electron. Computers <u>EC-16</u> , 372 (1967), DDC AD-661146
2987	Extraterrestrial Life	W. B. Smith	Science <u>155</u> , 852 (1967), DDC AD-653411
2988	Raman Scattering from Donor and Acceptor Impurities in Silicon	G. B. Wright A. Mooradian	Phys. Rev. Letters <u>18</u> , 608 (1967), DDC AD-653363
2989	A Thermodynamic Investigation of the Compounds $\text{In}_3\text{SbTe}_2$ , $\text{InSb}$ and $\text{InTe}$	A. K. Jena M. B. Bever M. D. Banus	Trans. Met. Soc. AIME <u>239</u> , 1232 (1967)
2990	Note on "Secant Correction for Tracking Pedestals"	F. L. Bacchialoni	IEEE Trans. Automat. Control <u>AC-12</u> , 475 (1967), DDC AD-663689
2991	Effect of Electron Irradiation on Carrier Mobilities in Inversion Layers of Insulated Gate Field Transistors	A. G. Stanley	IEEE Trans. Nuclear Sci. <u>NS-14</u> , 256 (1967), DDC AD-668184
2992	Correlation Function and Power Spectrum of Randomly Shaped Pulse Trains	O. A. Z. Leneman	IEEE Trans. Aerospace Electron. Syst. <u>AES-3</u> , 774 (1967), DDC AD-662172
2993	Magnetic and Structural Study of the Spinel $\text{MnYb}_2\text{S}_4$	J. M. Longo P. M. Raccach	Materials Res. Bull. <u>2</u> , 541 (1967), DDC AD-657032
2994A	Stability Measurements of $\text{CO}_2\text{-N}_2\text{-He}$ Lasers at $10.6\text{ }\mu\text{m}$ Wavelength	C. Freed	IEEE J. Quant. Electron. <u>QE-3</u> , 203 (1967), DDC AD-658783
2996	Automatic Channel Equalization Algorithm	C. W. Niessen	Proc. IEEE (Correspondence) <u>55</u> , 698 (1967)
2997	Arc Techniques for Materials Research	T. B. Reed	Materials Res. Bull. <u>2</u> , 349 (1967)

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| 2998  | Hall Coefficient and Transverse Magnetoresistance in HgTe at 4.2°K and 77°K                                   | T. C. Harman<br>J. M. Honig<br>P. H. Trent | J. Phys. Chem. Solids <u>28</u> , 1995 (1967), DDC AD-658089                            |
| 2999  | Effects of Parameter Quantization on the Poles of a Digital Filter  | C. M. Rader<br>B. Gold                     | Proc. IEEE (Correspondence) <u>55</u> , 688 (1967), DDC AD-658784                       |
| 3002  | Redistribution of Electrons in Secondary Emission Devices   | A. A. Braga-Illa                           | Alta Frequenza <u>36</u> , No. 5 (1967)   |
| 3003  | Van Allen Belt Simulation   | C. L. Mack                                 | J. Spacecraft <u>4</u> , 819 (1967), DDC AD-658780                                      |
| 3004  | The Oxidation of Aluminum Films in Low-Pressure Oxygen Atmospheres  | C. T. Kirk, Jr.<br>E. E. Huber, Jr.        | Surface Sci. <u>9</u> , 217 (1968), DDC AD-668306                                       |
| 3006  | City Noise and Its Effect Upon Airborne Antenna Noise Temperatures at UHF                                     | G. Ploussios                               | IEEE Trans. Aerospace Electron. Syst. <u>AES-4</u> , 41 (1968), DDC AD-668492           |
| 3011A | New Method for the Detection of Light Deflection by Solar Gravity   | I. I. Shapiro                              | Science <u>157</u> , 806 (1967), DDC AD-663681  |
| 3013  | Iterative Sequential Decoding   | I. G. Stiglitz                             | Accepted IEEE Trans. Inform. Theory   |
| 3018  | Growth of Single Ti <sub>2</sub> O <sub>3</sub> Crystals from the Melt  | T. B. Reed<br>R. E. Fahey<br>J. M. Honig   | Materials Res. Bull. <u>2</u> , 561 (1967)  |
| 3019  | Scattering by Edges: The Hemisphere   | S. D. Weiner                               | IEEE Trans. Antennas Propag. <u>AP-15</u> , 709 (1967), DDC AD-664442                   |
| 3020  | Mounted Diode Equivalent Circuits   | W. J. Getsinger                            | IEEE Trans. Microwave Theory Tech. <u>MTT-15</u> , 650 (1967), DDC AD-667874            |
| 3021  | Localized versus Collective d Electrons and Néel Temperatures in Perovskite and Perovskite-Related Structures | J. B. Goodenough                           | Phys. Rev. <u>164</u> , 785 (1967), DDC AD-668715                                       |
| 3022  | A Coding Theorem for Time-Discrete Analog Data Sources  | T. J. Goblick, Jr.                         | IEEE Trans. Inform. Theory <u>IT-15</u> , 401 (1969), DDC AD-693665                     |
| 3023  | Laser Emission from Electron Beam Excited ZnTe  | C. E. Hurwitz                              | IEEE J. Quant. Electron. <u>QE-3</u> , 333 (1967), DDC AD-664445                        |
| 3024  | Plasmas for High Temperature Chemistry  | T. B. Reed                                 | <u>Advances in High Temperature Chemistry</u> , Vol. 1 (Academic Press, New York, 1967) |
| 3025  | InSb-GaAsP Infrared to Visible Light Converter  | R. J. Phelan, Jr.                          | Proc. IEEE (Correspondence) <u>55</u> , 1501 (1967), DDC AD-662175                      |



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| 3027  | Experimental Results of a Frequency Doubler Using a Varactor Array                                     | D. Parker<br>A. I. Grayzel   | Proc. IEEE (Correspondence) <u>55</u> , 715 (1967), DDC AD-658769    |
| 3028  | New Variational Approach in the Transport Theory of the Coupled Electron-Phonon System                 | R. W. Davies   | Phys. Rev. <u>162</u> , 621 (1967), DDC AD-664448                    |
| 3029  | Resolution and Frequency Response in Secondary Emission Devices  | A. A. Braga-Illia  | IEEE Trans. Electron Devices <u>ED-14</u> , 829 (1967)               |
| 3031  | Backscatter from Spheres: A Short Pulse View   | J. Rheinsteint   | IEEE Trans. Antennas Propag. <u>AP-16</u> , 89 (1968), DDC AD-670444 |
| 3032  | Adaptive Combining of Wide-band Array Data for Optimal Reception                                       | R. T. Lacoss   | IEEE Trans. Geosci. Electron. <u>GE-6</u> , 78 (1968), DDC AD-673599 |
| 3033  | Observations of OH Emission in the H II Region W3 with a 74400 $\lambda$ Interferometer                | J. M. Moran<br>A. H. Barrett<br>A. E. E. Rogers<br>B. F. Burke<br>B. Zuckerman<br>H. Penfield<br>M. L. Meeks | Astrophys. J. <u>148</u> , L69 (1967), DDC AD-652914                 |
| 3038  | Long-Term Operation of a Sealed CO <sub>2</sub> Laser  | R. J. Carbone  | IEEE J. Quant. Electron. <u>QE-3</u> , 373 (1967), DDC AD-668195     |
| 3039  | Wave-Optical Aspects of Lorentz Microscopy   | M. S. Cohen  | J. Appl. Phys. <u>38</u> , 4966 (1967), DDC AD-668727                |
| 3041A | Design of Mutually Matching Multiple-Varactor Array for Power  | D. D. Tang   | Proc. IEEE (Correspondence) <u>55</u> , 1756 (1967), DDC AD-663686   |
| 3044  | Optical Properties of the Metal ReO <sub>3</sub> from 0.1 to 22 eV                                     | J. Feinleib<br>W. J. Scouler<br>A. Ferretti  | Phys. Rev. <u>165</u> , 765 (1968), DDC AD-668716                    |
| 3046A | Night Sky Photometry of [OI] $\lambda$ 5777 and $\lambda$ 6300 Inside the Southern Auroral Zone        | M. A. Gordon   | Planet. Space Sci. <u>16</u> , 297 (1968)                            |
| 3047  | Magnetic Films and Optics in Computer Memories   | D. O. Smith  | IEEE Trans. Magnetics <u>MAG-3</u> , 433 (1967), DDC AD-663682       |
| 3048  | Performance Characteristics of Thermomagnetic Devices Involving Graded Mass and Gap. I. Generators     | J. M. Honig<br>B. Lax  | J. Appl. Phys. <u>39</u> , 3549 (1968), DDC AD-678983                |

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| 3050 | Ferrite-Metal Thermal Conductances by a Transient Technique   | S. D. Ewing, Jr.  | IEEE Trans. Parts, Materials & Packaging PMP-3, 142 (1967),<br>DDC AD-670451 |
| 3051 | Intermodulation Products Generated by a p-i-n Diode Switch  | R. L. Sicotte<br>R. N. Assaly                                   | Proc. IEEE (Letters) <u>56</u> , 74 (1968), DDC AD-668721                    |
| 3052 | Low-Energy Interband Transitions and Band Structure in Nickel   | J. Hanus<br>J. Feinleib<br>W. J. Scouler                        | Phys. Rev. Letters <u>19</u> , 16 (1967),<br>DDC AD-658919                   |
| 3053 | Solid-State RF Noise Source   | A. J. Yakutis   | Proc. IEEE (Letters) <u>56</u> , 228 (1968), DDC AD-670442                   |
| 3054 | Atmospheric Measurements at Kwajalein Using Hypersonic Spheres  | J. E. Salah   | J. Geophys. Res. <u>72</u> , 5389 (1967),<br>DDC AD-663687                   |
| 3056 | Systems for Compressing the Bandwidth of Speech   | B. Gold<br>C. M. Rader  | IEEE Trans. Audio Electroacoust. AU-15, 131 (1967),<br>DDC AD-670450         |
| 3057 | Resonance Rotation of Venus   | I. I. Shapiro   | Science <u>157</u> , 423 (1967),<br>DDC AD-661145                            |
| 3058 | Proposal for a Magnetic-Film Memory Accessed by Combined Photon and Electron Beams                              | D. O. Smith   | IEEE Trans. Magnetics MAG-3, 593 (1967), DDC AD-670776                       |
| 3060 | Polarization and Intensity of Raman Scattering from Plasmons and Phonons in Gallium Arsenide                    | A. Mooradian<br>A. L. McWhorter                                 | Phys. Rev. Letters <u>19</u> , 849 (1967),<br>DDC AD-668193                  |
| 3061 | Phase Measurement Accuracy with Modulated Sounding Signals  | D. Arnstein   | IEEE Trans. Commun. Tech. COM-16, 419 (1968)                                 |
| 3062 | On the Measurement of a Bifilar Complementary Helical Antenna   | P. R. Wu  | IEEE Trans. Antennas Propag. AP-15, 700 (1967)                               |
| 3063 | Books and Conference Proceedings  | K. J. Harte<br>D. O. Smith                                      | <u>Magnetism and Magnetic Materials Digest</u> (Academic, New York, 1967)    |
| 3064 | Observation of the $94\alpha$ and $148\delta$ Hydrogen and $94\alpha$ Helium Emission Lines in the Orion Nebula | M. A. Gordon<br>M. L. Meeks                                     | Astrophys. J. <u>149</u> , L21 (1967),<br>DDC AD-658911                      |
| 3065 | Self-Steepening of Light Pulses   | F. DeMartini<br>C. H. Townes<br>T. K. Gustafson<br>P. L. Kelley | Phys. Rev. <u>164</u> , 312 (1967),<br>DDC AD-668731                         |

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| 3066 | Magnetic Interactions and Spiral Ground States in Spinel, with Application to $\text{ZnCr}_2\text{Se}_4$ | K. Dwight<br>N. Menyuk                                       | Phys. Rev. <u>163</u> , 435 (1967),<br>DDC AD-668194                     |
| 3068 | Theory of the Magnetic Properties of the Ilmenites $\text{MTiO}_3$                                       | J. B. Goodenough<br>J. J. Stickler                           | Phys. Rev. <u>164</u> , 768 (1967),<br>DDC AD-668712                     |
| 3069 | Magnetic Resonance and Susceptibility of Several Ilmenite Powders  | J. J. Stickler<br>S. Kern<br>A. Wold<br>G. S. Heller         | Phys. Rev. <u>164</u> , 765 (1967),<br>DDC AD-668729                     |
| 3070 | Tetrahedral-Site Copper in Chalcogenide Spinel   | J. B. Goodenough   | Solid State Commun. <u>5</u> , 577 (1967),<br>DDC AD-658027              |
| 3071 | Short-Period Signal Processing Results for the Large Aperture Seismic Array                              | J. Capon<br>R. J. Greenfield<br>R. J. Kolker<br>R. T. Lacoss | Geophysics <u>33</u> , 452 (1968),<br>DDC AD-674830                      |
| 3073 | Short-Pulse Scattering by a Cone - Direct and Inverse  | S. Hong<br>S. L. Borison                                     | IEEE Trans. Antennas Propag. <u>AP-16</u> , 98 (1968),<br>DDC AD-670763  |
| 3074 | A 10.6-Micron Four-Port Circulator Using Free Carrier Rotation in InSb                                   | J. H. Dennis   | IEEE J. Quant. Electron. <u>QE-3</u> , 416 (1967), DDC AD-668728         |
| 3076 | Spark Source Mass Spectroscopy   | E. B. Owens  | <u>McGraw-Hill Yearbook of Science and Technology</u> (1968)             |
| 3078 | Infrared Heterodyne Detection  | M. C. Teich  | Proc. IEEE <u>56</u> , 37 (1968),<br>DDC AD-668713                       |
| 3080 | Current Runaway and Avalanche Effects in n-CdTe  | M. R. Oliver<br>A. L. McWhorter<br>A. G. Foyt                | Appl. Phys. Letters <u>11</u> , 111 (1967), DDC AD-662292                |
| 3082 | Symmetry of the Ground Level of a Hamiltonian  | W. H. Kleiner<br>T. A. Kaplan                                | J. Math. Phys. <u>10</u> , 236 (1969),<br>DDC AD-688031                  |
| 3083 | Changes in the Work Function of Aluminum During and Following Low Pressure Oxidation at Room Temperature | E. E. Huber, Jr.<br>C. T. Kirk, Jr.                          | Surface Sci. <u>8</u> , 458 (1967)                                       |
| 3085 | Observation of Exciton Fine Structure in the Interband Magnetoabsorption of InSb and Germanium           | E. J. Johnson  | Phys. Rev. Letters <u>19</u> , 352 (1967), DDC AD-662293                 |
| 3086 | The Gunn Effect in n-CdTe  | M. R. Oliver<br>A. G. Foyt                                   | IEEE Trans. Electron Devices <u>ED-14</u> , 617 (1967),<br>DDC AD-668186 |
| 3087 | Inversion Asymmetry Effects on Oscillatory Magnetoresistance in HgSe                                     | L. M. Roth<br>S. H. Groves<br>P. W. Wyatt                    | Phys. Rev. Letters <u>19</u> , 576 (1967), DDC AD-668198                 |

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| 3090  | New Expansion for the Classical Heisenberg Model and Its Similarity to the $S = 1/2$ Ising Model             | H. E. Stanley  | Phys. Rev. <b>164</b> , 709 (1967),<br>DDC AD-669216                         |
| 3091  | Electroreflectance Study of Inter-band Magneto-Optical Transitions in InAs and InSb at 1.5°K                 | C. R. Pidgeon<br>S. H. Groves<br>J. Feinleib   | Solid State Commun. <b>5</b> , 677 (1967),<br>DDC AD-658835                  |
| 3093  | The Channel Vocoder  | B. Gold<br>C. M. Rader   | IEEE Trans. Audio Electroacoust. <b>AU-15</b> , 148 (1967),<br>DDC AD-679147 |
| 3095A | Computer-Design of Diode-Using Microwave Components, and a Computer-Dimensioned, X-Band Parametric Amplifier | W. J. Getsinger<br>A. H. Kessler   | Microwave J. <b>12</b> , No. 3, 119 (1969), DDC AD-688041                    |
| 3097  | Perturbation Calculation of Band-Structure Effects in Low-Field Helicon Propagation                          | A. L. McWhorter<br>J. N. Walpole   | Phys. Rev. <b>163</b> , 618 (1967),<br>DDC AD-669221                         |
| 3098  | Spectral Line Interferometry with Independent Time Standards at Stations Separated by 845 Kilometers         | J. M. Moran<br>P. P. Crowther<br>B. F. Burke<br>A. H. Barrett<br>A. E. E. Rogers<br>J. A. Ball<br>J. C. Carter<br>C. C. Bare | Science <b>157</b> , 676 (1967),<br>DDC AD-661152                            |
| 3100  | Magnetostriction Effects on Ferrite Material Parameters of Importance in Remanence Devices                   | R. Epstein<br>R. Germann<br>J. Sohn<br>D. H. Temme   | IEEE Trans. Microwave Theory Tech. MTT-16, 54 (1968),<br>DDC AD-670792       |
| 3102  | Observations of $\epsilon$ Hz Continuum and Hydrogen Recombination Lines in the Orion Nebula                 | M. A. Gordon<br>M. L. Meeks  | Astrophys. J. <b>152</b> , 417 (1968),<br>DDC AD-671288                      |
| 3103  | Theory of Magnetization Ripple in Ferromagnetic Films  | K. J. Harte  | J. Appl. Phys. <b>39</b> , 1503 (1968),<br>DDC AD-671275                     |
| 3104  | Shallow Donor Levels of InSb in a Magnetic Field   | D. M. Larsen   | J. Phys. Chem. Solids <b>29</b> , 271 (1968), DDC AD-664919                  |
| 3107  | Mode Pulling in a Stimulated Raman Oscillator  | P. E. Tannenwald   | J. Appl. Phys. <b>38</b> , 4788 (1967),<br>DDC AD-669220                     |
| 3108  | Magnetic Properties of $\text{La}_{0.5}\text{Sr}_{0.5}\text{CoO}_3$ near Its Curie Temperature               | N. Menyuk<br>P. M. Raccach<br>K. Dwight  | Phys. Rev. <b>166</b> , 510 (1968),<br>DDC AD-670445                         |
| 3109  | Observations of Hysteresis Damping in a Spinning Satellite   | W. B. Smith<br>I. I. Shapiro   | J. Spacecraft <b>5</b> , 337 (1968),<br>DDC AD-670786                        |
| 3110  | A New, Widely and Continuously Tunable, High-Power Pulsed Laser Source                                       | R. L. Carman<br>J. G. C. Hanus<br>D. L. Weinberg   | Appl. Phys. Letters <b>11</b> , 250 (1967), DDC AD-667875                    |

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3111	Resolution and the Equivalent Filter Secondary Emission Devices	A. A. Braga-Ilia	Alta Frequenza <u>37</u> , 47E-153 (1968)
3113	Stationkeeping a 24-Hr Satellite Using Solar Radiation Pressure	W. L. Black M. C. Crocker E. H. Swenson	J. Spacecraft <u>5</u> , 335 (1968), DDC AD-670781
3116	Aperture Synthesis in Radar Astronomy and Some Applications to Lunar and Planetary Studies	T. Hagfors B. Nanni K. Stone	Radio Sci. <u>3</u> , 491 (1968)
3119	Tellurium Vapor Pressure and Optical Density at 370-615°C	R. F. Brebrick	J. Phys. Chem. <u>72</u> , 1032 (1968), DDC AD-670793
3120	Gas-Density Fluctuations in the Wakes from Hypersonic Spheres	J. Herrmann W. G. Clay R. E. Slattery	Phys. Fluids <u>11</u> , 954 (1968), DDC AD-673463
3121	Ferromagnetism in Films	M. S. Cohen	Chap. 10, <u>Thin Film Phenomena</u> (McGraw-Hill, New York, 1969)
3126	Electron-Hole Pair Effects on Landau Levels in InSb	D. M. Larsen	Phys. Rev. Letters <u>19</u> , 1128 (1967), DDC AD-669218
3128	Theory of the Radar Determination of Planetary Rotations	I. I. Shapiro	Astron. J. <u>72</u> , 1309 (1967), DDC AD-670441
3132	Reduction of Reducible Representations of the Poincaré Group to Standard Helicity Representations.	H. E. Moses	J. Math. Phys. <u>9</u> , 2039 (1968), DDC AD-693702
3134A	Epitaxial Gallium Arsenide for High-Efficiency Gunn Oscillators	C. M. Wolfe A. G. Foyt W. T. Lindley	Electrochem. Technol. <u>6</u> , 208 (1968), DDC AD-673592
3136	A High-Power Waveguide Tuner	C. E. Muehe	IEEE Trans. Microwave Theory Tech. <u>MTT-16</u> , 882 (1968), DDC AD-685689
3137	Metallurgical and Electronic Properties of $Pb_{1-x}Sn_xTe$ , $Pb_{1-x}Sn_xSe$ , and Other IV-VI Alloys	A. J. Strauss	Trans. Met. Soc. AIME <u>242</u> , 354 (1968), DDC AD-678982
3138	Sunrise Behavior of the F Layer at Midlatitudes	J. V. Evans	J. Geophys. Res. <u>73</u> , 3489 (1968), DDC AD-673605
3139	Evidence for Electron-TO-Phonon Interaction in InSb	D. H. Dickey D. M. Larsen	Phys. Rev. Letters <u>20</u> , 65 (1968), DDC AD-669206
3140	Crystal Growth, Annealing, and Diffusion of Lead-Tin Chalcogenides	A. R. Calawa T. C. Harman M. C. Finn P. Youtz	Trans. Met. Soc. AIME <u>242</u> , 374 (1968), DDC AD-678986
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| 3143 | Use of Crossed Cylinder Lens in Photographic Lens Evaluation                                       | B. Howland  | Appl. Optics <u>7</u> , 1587 (1968),<br>DDC AD-677855                             |
| 3145 | Observations of Galactic OH Emission   | J. A. Ball<br>M. L. Meeks                         | Astrophys. J. <u>153</u> , 577 (1968),<br>DDC AD-677846                           |
| 3146 | Resonant Cavity Measurements of Ionized Wakes  | W. M. Kornegay                                    | IEEE Trans. Aerospace Electron. Syst. <u>AES-4</u> , 184 (1968),<br>DDC AD-671291 |
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| 3155 | Analysis of Tellurides of Lead and Tin by Automatic Titrations                                     | J. C. Cornwell<br>K. L. Cheng                     | Anal. Chim. Acta <u>42</u> , 189 (1968),<br>DDC AD-674786                         |
| 3156 | Critical Properties of Isotropically Interacting Classical Spins Constrained to a Plane            | H. E. Stanley                                     | Phys. Rev. Letters <u>20</u> , 150 (1968), DDC AD-669213                          |
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| 3161 | Growth of Single Crystals of $ZnTe$ and $ZnTe_{1-x}Se_x$ by Temperature Gradient Solution Zoning   | J. Steininger<br>R. England                       | Trans. Met. Soc. AIME <u>242</u> , 444 (1968), DDC AD-678981                      |
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| 3166  | Recent Developments in Lorentz Electron Microscopy  | M. S. Cohen   | IEEE Trans. Magnetics <u>MAG-4</u> , 48 (1968), DDC AD-670790                   |
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| 3192  | Spin-Orbit-Coupling Effects in Transition-Metal Compounds                        | J. B. Goodenough   | Phys. Rev. <u>171</u> , 466 (1968),<br>DDC AD-677856   |
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| 3206  | Partial Pressure of Se <sub>2</sub> (g) in Selenium Vapor                        | R. F. Brebrick   | J. Chem. Phys. <u>48</u> , 5741 (1968),<br>DDC AD-681588   |
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| 3235 | Discrete Fourier Transforms When the Number of Data Samples Is Prime        | C. M. Rader   | Proc. IEEE (Letters) <u>56</u> , 1107 (1968), DDC AD-677950                                 |
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| 3274 | Magnetic Resonance  | R. Weber  | <u>Magnetism and Magnetic Materials - 1968 Digest</u> (Academic Press, New York, 1968) |
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| 3281 | Crystallographic and Magnetic Properties of Perovskite and Perovskite-Related Compounds   | J. B. Goodenough<br>J. M. Longo   | Accepted <u>Landolt-Bornstein Tabellen</u> (Springer-Verlag)                           |
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3287	Scattering Properties of Venus at 3.8 cm	R. P. Ingalls J. V. Evans	Astron. J. <u>74</u> , 258 (1969) DDC AD-689901
3289	Determination of Magnetic Anisotropy and Porosity from the Approach to Saturation of Polycrystalline Ferrites	G. F. Dionne	J. Appl. Phys. <u>40</u> , 1839 (1969)
3290	The Pointing Calibration of the Haystack Antenna	M. L. Meeks J. A. Ball A. B. Hull	IEEE Trans. Antennas Propag. <u>AP-16</u> , 746 (1968), DDC AD-688043
3291	The Design of Clutter-Resistant Radar Waveforms with Limited Dynamic Range	D. F. DeLong, Jr. E. M. Hofstetter	IEEE Trans. Inform. Theory <u>IT-15</u> , 376 (1969), DDC AD-694142
3292	On Digital Filtering	C. M. Rader	IEEE Trans. Audio Electroacoust. <u>AU-16</u> , 303 (1968), DDC AD-688554
3293	Radiation from Microstrip Resonators	E. J. Denlinger	IEEE Trans. Microwave Theory Tech. <u>MTT-17</u> , 235 (1969), DDC AD-694143
3294	Parameters of Microstrip Transmission Lines and of Coupled Pairs of Microstrip Lines	T. G. Bryant J. A. Weiss	IEEE Trans. Microwave Theory Tech. <u>MTT-16</u> , 1021 (1969), DDC AD-688037
3295	Low Level Coherent and Incoherent Detection in the Infrared	R. J. Keyes T. M. Quist	Accepted <u>Semiconductors and Semimetals</u> , Vol. 7 (Academic Press, New York)
3296	Photoconductivity in Single-Crystal $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$	I. Melngailis T. C. Harman	Appl. Phys. Letters <u>13</u> , 180 (1968), DDC AD-688024
3298	Space-Filling Curves and Their Application to Bandwidth Reduction	T. Bially	Accepted IEEE Trans. Inform. Theory
3299	Characteristics of a Single-Frequency Sealed-Off $\text{CO}_2$ Amplifier	R. J. Carbone	IEEE J. Quant. Electron. <u>QE-5</u> , 48 (1969), DDC AD-692969
3300	Metallic Inclusions and Cellular Substructure in $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ Single Crystals	J. F. Butler T. C. Harman	J. Electrochem. Soc. <u>116</u> , 260 (1969), DDC AD-688556

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| 3301  | Effective-Mass Theory for Polarons in External Fields  | D. M. Larsen   | Phys. Rev. <u>180</u> , 919 (1969)  |
| 3302  | Scientific Uses of Pulsars   | C. C. Counselman<br>I. I. Shapiro  | Science <u>162</u> , 352 (1968),<br>DDC AD-689022                                 |
| 3303  | Quenchable Effects of High Pressures and Temperatures on the Cubic Monoxide of Titanium                                      | M. D. Banus  | Materials Res. Bull. <u>3</u> , 723 (1968),<br>DDC AD-677839                      |
| 3304  | Self-Modulation, Self-Steepening, and Spectral Development of Light in Small-Scale Trapped Filaments                         | T. K. Gustafson<br>J. P. Taran<br>H. A. Haus<br>J. R. Lifshitz<br>P. L. Kelley | Phys. Rev. <u>177</u> , 306 (1969),<br>DDC AD-688036                              |
| 3305  | A Note on Digital Filter Synthesis   | B. Gold<br>K. L. Jordan, Jr.   | Proc. IEEE (Letters) <u>56</u> , 1717 (1968), DDC AD-688555                       |
| 3306  | Band Structure and Electrical Conductivity of NiO  | J. Feinleib<br>D. Adler  | Phys. Rev. Letters <u>21</u> , 1010 (1968), DDC AD-681587                         |
| 3307  | A Direct Search Procedure for Designing Finite Duration Impulse Response Filters   | B. Gold<br>K. L. Jordan, Jr.   | IEEE Trans. Audio Electroacoust. <u>AU-17</u> , 33 (1969), DDC AD-694141          |
| 3308  | Conditions for Microwave Radiations from Excited OH A-Douplet States   | M. M. Litvak<br>B. Zuckerman<br>D. F. Dickinson                                | Astrophys. J. <u>156</u> , 875 (1969),<br>DDC AD-692970                           |
| 3311  | Effects of Pressure on the Magnetic Properties of MnAs   | N. Menyuk<br>J. A. Kafalas<br>K. Dwight, Jr.<br>J. B. Goodenough               | Phys. Rev. <u>177</u> , 942 (1969),<br>DDC AD-689025                              |
| 3312  | Effect of the Molecular Interaction Between Anisotropic Molecules on the Optical Kerr Effect: Field-Induced Phase Transition | J. Hanus   | Phys. Rev. <u>178</u> , 420 (1969),<br>DDC AD-688994                              |
| 3313  | Exact Solution for a Linear Chain of Isotropically Interacting Classical Spins of Arbitrary Dimensionality                   | H. E. Stanley  | Phys. Rev. <u>179</u> , 570 (1969),<br>DDC AD-692923                              |
| 3316  | Preparation of $\{A_3^{2+}\}[\text{Te}_2](B^{2+})$ -Garnets  | H. M. Kasper   | Materials Res. Bull. <u>3</u> , 765 (1968), DDC AD-677840                         |
| 3317A | The Fermi Surface and Optical Properties of Copper   | G. F. Dresselhaus  | Solid State Commun. <u>7</u> , 419 (1969), DDC AD-689898                          |
| 3320  | Single Crystal Lead-Tin Chalcogenides  | I. Melngailis<br>T. C. Harman  | Accepted <u>Semiconductors and Semimetals</u> , Vol. 7 (Academic Press, New York) |
| 3322  | On the Doppler Effect in Plane Wave Scattering by Moving Conducting Bodies   | G. N. Tsandoulas   | Proc. IEEE (Letters) <u>56</u> , 1749 (1968), DDC AD-689575                       |

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| 3323 | Covariant Space-Time Operators, Infinite-Component Wavefunctions, and Proper-Time Schrödinger Equations   | H. E. Moses  | Ann. Phys. <u>52</u> , 444 (1969),<br>DDC AD-692924                   |
| 3325 | Radar Measurements of Martian Topography  | G. H. Pettengill<br>C. C. Counselman<br>L. P. Rainville<br>I. I. Shapiro | Astron. J. <u>74</u> , 461 (1969)                                     |
| 3326 | Characterization of Phases in the 50-60 at.% Te Region of the Bi-Te System by X-Ray Powder Diffraction Patterns                                 | R. F. Brebrick   | J. Appl. Crystal. <u>1</u> , 241 (1968),<br>DDC AD-689897             |
| 3328 | Polymorphism in Silver Telluride at High Pressures and Temperatures   | M. D. Banus<br>M. C. Finn  | J. Electrochem. Soc. <u>116</u> , 91 (1969), DDC AD-688038            |
| 3329 | Isolation of Junction Devices in GaAs Using Proton Bombardment  | A. G. Foyt<br>W. T. Lindley<br>C. M. Wolfe<br>J. P. Donnelly             | Solid State Electron. <u>12</u> , 209 (1969), DDC AD-694145           |
| 3333 | Generation of High Microwave Power Using Arrays of Varactor Diodes  | D. Parker<br>A. I. Grayzel   | J. Spacecraft <u>5</u> , 1368 (1968),<br>DDC AD-688039                |
| 3334 | Speech Analysis-Synthesis System Based on Homomorphic Filtering   | A. V. Oppenheim  | J. Acoust. Soc. Am. <u>45</u> , 458 (1969), DDC AD-689574             |
| 3335 | Transport Equation for a Fermi Liquid in Random Scattering Centers. I. A Quasiparticle Description in the Macroscopic and Low-Temperature Limit | J. L. Sigel<br>P. N. Argyres   | Phys. Rev. <u>178</u> , 1016 (1969),<br>DDC AD-689899                 |
| 3336 | Epitaxially Grown Guard Rings for GaAs Diodes   | C. M. Wolfe<br>W. T. Lindley   | J. Electrochem. Soc. <u>116</u> , 276 (1969), DDC AD-688571           |
| 3338 | A Cross LPD Array Antenna on a Conducting Cone  | P. R. Wu   | IEEE Trans. Antennas Propag. <u>AP-17</u> , 100 (1969), DDC AD-692972 |
| 3340 | Infrared Pumping of Interstellar OH   | M. M. Litvak   | Astrophys. J. <u>156</u> , 471 (1969),<br>DDC AD-689902               |
| 3342 | X-Band Gas-Tube Pulsed Attenuator for Maser Protection  | A. A. L. Browne<br>C. E. Muehe   | Accepted IEEE Trans. Electron Devices                                 |
| 3343 | Effect of Pore Size on Remanence Ratios of Magnetic Materials   | G. F. Dionne   | J. Appl. Phys. <u>40</u> , 431 (1969),<br>DDC AD-688572               |
| 3344 | SHF Tunnel Diode Switching-Mode Frequency Divider   | R. H. Domnitz  | Proc. IEEE <u>57</u> , 216 (1969),<br>DDC AD-688028                   |
| 3345 | Optical Properties of Mg <sub>2</sub> Si, Mg <sub>2</sub> Ge and Mg <sub>2</sub> Sn from 0.6 to 11.0 eV at 77°K                                 | W. J. Scouler  | Phys. Rev. <u>178</u> , 1353 (1969),<br>DDC AD-689884                 |

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| 3346 | A New Series of Rare Earth Garnets $\text{Ln}^{3+}_3\text{M}_2\text{Li}^+_3\text{O}_{12}$ (M = Te, W) | H. M. Kasper                    | Inorg. Chem. <u>8</u> , 1000 (1969),<br>DDC AD-693662                    |
| 3347 | Exchange Interactions and Raman Scattering from Spin Excitations in $\text{RbNiF}_3$                  | S. R. Chinn<br>H. J. Zeiger     | Phys. Rev. Letters <u>21</u> , 1589 (1968), DDC AD-688025                |
| 3348 | Temperature Dependence of Raman Linewidth and Shift in $\alpha$ -Quartz                               | A. S. Pine<br>P. E. Tannenwald  | Phys. Rev. <u>178</u> , 1424 (1969),<br>DDC AD-689882                    |
| 3350 | The P-T Phase Diagram of InSb at High Temperatures and Pressures                                      | M. D. Banus<br>M. C. Lavine     | J. Appl. Phys. <u>40</u> , 409 (1969),<br>DDC AD-688029                  |
| 3351 | Magnetic Anisotropy and Magnetostriiction Constants of Substituted Lithium Ferrites at 300°K          | G. F. Dionne                    | Accepted Phys. Rev.  |
| 3353 | $\text{LnCrTeO}_6$ - A New Series of Compounds Based on the $\text{PbSb}_2\text{O}_6$ Structure       | H. M. Kasper                    | Materials Res. Bull. <u>4</u> , 33 (1969),<br>DDC AD-688573              |
| 3356 | A Millimeter-Wave Lunar Radar   | J. J. G. McCue<br>E. A. Crocker | Microwave J. <u>11</u> , 59 (1968),<br>DDC AD-688568                     |
| 3358 | Boltzmann-Equation Study of Hot-Electron Relaxation in Metals   | R. W. Davies                    | Phys. Rev. <u>181</u> , 1118 (1969)                                      |
| 3359 | Performance of Cadmium Sulfide Thin Film Solar Cells in a Space Environment                           | A. G. Stanley                   | Proc. IEEE <u>57</u> , 692 (1969)  |
| 3362 | Theory and Practice of Ionosphere Study by Thomson Scatter Radar                                      | J. V. Evans                     | Proc. IEEE <u>57</u> , 496 (1969)  |
| 3363 | A Note on the Mean-Square Behavior of a First-Order Random Sampling System                            | O. A. Z. Leneman                | IEEE Trans. Automat. Control <u>AC-13</u> , 450 (1968),<br>DDC AD-689023 |
| 3364 | Random Sampling of Random Processes: Mean-Square Behavior of a First-Order Closed-Loop System         | O. A. Z. Leneman                | IEEE Trans. Automat. Control <u>AC-13</u> , 429 (1968),<br>DDC AD-688033 |
| 3365 | Photoluminescence of Metals   | A. Mooradian                    | Phys. Rev. Letters <u>22</u> , 185 (1969),<br>DDC AD-688030              |
| 3367 | Tropical Air Density Below 80 km from Hypersonic Sphere Measurements                                  | J. E. Salah                     | J. Appl. Meteorol. <u>8</u> , 711 (1969)                                 |
| 3369 | Inversion Asymmetry and Warping Induced Interband Magneto-Optical Transition in InSb                  | C. R. Pidgeon<br>S. H. Groves   | Accepted Phys. Rev.  |



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| 3371 | Bismuth Doped $Pb_{1-x}Sn_xTe$ Diode Lasers with Low-Threshold Currents                                | J. F. Butler<br>T. C. Harman                             | IEEE J. Quant. Electron. <u>QE-5</u> , 50 (1969), DDC AD-693663 |
| 3373 | Interstellar Sulfur Hydride: A Search for the 111-Megahertz Lines                                      | M. L. Meeks<br>M. A. Gordon<br>M. M. Litvak              | Science <u>163</u> , 173 (1969), DDC AD-688550                  |
| 3374 | Dispersion Characteristics of an Open Interdigital-Line Structure                                      | P. R. Wu   | IEEE Trans. Microwave Theory Tech. <u>MTT-17</u> , 159 (1969)   |
| 3376 | A Radar Study of the III Region Orion B  | M. A. Gordon   | Accepted Astrophys. J.  |
| 3379 | Beam Lead Substrate Assembly Techniques and Applications   | R. E. McMahon<br>R. A. Cohen                             | Electronics <u>41</u> , No. 25, 95 (1968)                       |
| 3380 | Partial Pressures of Zn and $Te_2$ over $ZnTe$ up to $917^\circ C$                                     | R. F. Brebrick   | J. Electrochem. Soc. <u>116</u> , 1274 (1969)                   |
| 3381 | Transmitted Power Maximization in Communication Satellites   | A. Braga-Illa<br>D. M. Snider                            | J. Spacecraft <u>6</u> , 173 (1969), DDC AD-670453              |
| 3383 | Comparison of the Independent Grain and Dipole Narrowing Theories of Ferrimagnetic Resonance Linewidth | G. F. Dionne   | J. Appl. Phys. <u>40</u> , 3061 (1969)                          |
| 3386 | Transient and Steady State Thermal Self-Focusing   | R. L. Carman<br>A. Mooradian<br>P. L. Kelley<br>A. Tufts | Appl. Phys. Letters <u>14</u> , 136 (1969)                      |
| 3387 | Infrared Transmission, Magnetic Birefringence, and Faraday Rotation in $EuO$                           | J. O. Dimmock<br>C. E. Hurwitz<br>T. B. Reed             | Appl. Phys. Letters <u>14</u> , 49 (1969), DDC AD-689886        |
| 3388 | A Bound on the Output of a Circular Convolution with Application to Digital Filtering                  | A. V. Oppenheim<br>C. Weinstein                          | IEEE Trans. Audio Electroacoust. <u>AU-17</u> , 120 (1969)      |
| 3389 | Gain Saturation and Diffusion in $CO_2$ Lasers   | C. P. Christensen<br>C. Freed<br>H. A. Haus              | IEEE J. Quant. Electron. <u>QE-5</u> , 276 (1969)               |
| 3390 | A Shallow-Cavity UHF Crossed-Slot Antenna  | C. A. Lindberg   | IEEE Trans. Antennas Propag. <u>AP-17</u> , 558 (1969)          |
| 3391 | High Power Varactor Package for Multichip Application  | D. D. Tang   | Proc. IEEE (Letters) <u>57</u> , 799 (1969)                     |
| 3392 | High-Resolution Frequency-Wavenumber Spectrum Analysis   | J. Capon   | Proc. IEEE <u>57</u> , 1408 (1969)                              |
| 3393 | Silicon Dioxide Thermally Grown in a Silicon Nitride Ambient   | R. A. Cohen<br>R. Wheeler                                | J. Electrochem. Soc. <u>116</u> , 506 (1969), DDC AD-688574     |

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| 3394  | Far Infrared and Submillimeter Impact Ionization Modulator   | I. Melngailis<br>P. E. Tannenwald                               | Proc. IEEE (Letters) <u>57</u> , 806 (1969)  |
| 3397  | The Chirp z-Transform Algorithm  | L. R. Rabiner<br>R. W. Schafer<br>C. M. Rader                   | Bell Syst. Tech. J. <u>48</u> , 1249 (1969); IEEE Trans. Audio Electroacoust. <u>AU-17</u> , 86 (1969) |
| 3400  | Magnetoreflexion Studies in Arsenic  | M. Maltz<br>M. S. Dresselhaus                                   | Phys. Rev. <u>182</u> , 741 (1969)   |
| 3404  | Magnetic Anisotropy and Magnetostriction of $\text{Y}_3\text{Mn}_{0.1}\text{Fe}_{4.9}\text{O}_{12}$ at 300°K             | G. F. Dionne<br>P. J. Pauli                                     | Materials Res. Bull. <u>4</u> , 171 (1969), DDC AD-688282  |
| 3406  | Method for Fabricating High Frequency Surface Wave Transducers   | H. I. Smith   | Rev. Sci. Instr. <u>40</u> , 729 (1969)  |
| 3411  | Report on International Conference on Silicon Carbide  | J. R. O'Connor  | J. Cryst. Growth <u>5</u> , 152 (1969)   |
| 3412A | Experimental Comparison of Hartree-Fock and Slater Exchange Potentials in Aluminum from the Charge Density Point of View | P. M. Raccach<br>V. E. Henrich                                  | Accepted J. Quant. Chem.   |
| 3414  | Reports On Recent Foreign Conferences: A Summary Report on Recent Foreign Conferences on Magnetism                       | D. O. Smith   | J. Appl. Phys. <u>40</u> , 1428 (1969)   |
| 3417  | Space-Time Symmetry Restrictions on Transport Coefficients. III. Thermogalvanomagnetic Coefficients                      | W. H. Kleiner   | Phys. Rev. <u>182</u> , 705 (1969)   |
| 3421  | Nuclear Linewidth Measurements of $\text{Mn}^{55}$ in Antiferromagnetic $\text{CsMnF}_3$ and $\text{RbMnF}_3$            | R. Weber<br>M. H. Seavey  | Solid State Commun. <u>7</u> , 619 (1969), LDC AD-680883   |
| 3422  | Remarks on the Fast Fourier Transform  | C. M. Rader   | IEEE Trans. Audio Electroacoust. <u>AU-17</u> , 72 (1969)  |
| 3423  | Brillouin Scattering Study of Acoustic Attenuation in Fused Quartz   | A. S. Pine  | Accepted Phys. Rev.  |
| 3426  | GaAs Schottky Barrier Avalanche Photodiodes  | W. T. Lindley<br>R. J. Phelan, Jr.<br>C. M. Wolfe<br>A. G. Foyt | Appl. Phys. Letters <u>14</u> , 197 (1969)   |
| 3427  | Homodyne Detection of Infrared Radiation from a Moving Diffuse Target  | M. C. Teich   | Proc. IEEE <u>57</u> , 786 (1969)  |

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JA No.			
3428	A Comparison of Roundoff Noise in Floating Point and Fixed Point Digital Filter Realizations	C. Weinstein A. V. Oppenheim	Proc. IEEE (Letters) <u>57</u> , 1181 (1969)
3430	Low-Frequency Diffraction by Moving Conducting Strips	G. N. Tsandoulas	J. Opt. Soc. Am. <u>59</u> , 1357 (1969)
3431	Some Problems in the Theory of Guided Microsonic Waves	R. A. Waldron	Accepted IEEE Trans. Microwave Theory Tech.
3433	Parallel Processing Techniques for Estimating Pitch Periods of Speech in the Time Domain	B. Gold L. Rabiner	J. Acoust. Soc. Am. <u>46</u> , 442 (1969)
3434	A Simulation of Stationkeeping for Synchronous Satellites	M. C. Crocker, II	J. Spacecraft <u>6</u> , 616 (1969)
3436	Pb <sub>2</sub> M <sub>2</sub> O <sub>7-x</sub> (M = Ru, Ir, Re) - Preparation and Properties of Oxygen Deficient Pyrochlores	J. M. Longo P. M. Raccach J. B. Goodenough	Materials Res. Bull. <u>4</u> , 191 (1969), DDC AD-693666
3437	The Effect of Pressure and B-Cation Size on the Crystal Structure of CsBF <sub>3</sub> Compounds (B = Mn, Fe, Co, Ni, Zn, Mg)	J. M. Longo J. A. Kafalas	J. Solid State Chem. <u>1</u> , 103 (1969)
3441A	Magnetoreflexion Studies on the Band Structure of Bismuth-Antimony Alloys	E. J. Tichovolsky J. G. Mavroides	Solid State Commun. <u>7</u> , 927 (1969), DDC AD-693671
3442	Effects of Light on the Charge State of InSb-MOS Devices	W. E. Krag R. J. Phelan, Jr. J. O. Dimmock	J. Appl. Phys. <u>40</u> , 3661 (1969)
3445	Experimental Techniques in Raman Spectroscopy	A. Mooradian	SPEX Speaker Ramalogs <u>2</u> (1969)
3447	Polymorphism in Selenospinel - A High Pressure Phase of CdCr <sub>2</sub> Se <sub>4</sub>	M. D. Banus M. C. Lavine	J. Solid State Chem. <u>1</u> , 109 (1969)
3449	Magnetoemission Experiments in Pb <sub>1-x</sub> Sn <sub>x</sub> Te	J. F. Butler	Solid State Commun. <u>7</u> , 909 (1969)
3453	A Comparison of Three Non-linear Filters	R. P. Wishner J. A. Tabaczynski M. A. S. S.	Accepted Automatica
3456	Equivalence of the Rayleigh Solution and the Extended-Boundary-Condition Solution for Scattering Problems	M. L. Burrows	Electron. Letters <u>5</u> , 277 (1969)
3460	Metallic Oxides	J. B. Goodenough	Accepted <u>Progress in Solid State Chemistry</u> (Pergamon, New York)

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| 3463 | Temperature and Compositional Dependence of Laser Emission in $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$          | T. C. Harman<br>A. R. Calawa<br>I. Melngailis<br>J. O. Dimmock                                     | Appl. Phys. Letters <u>14</u> , 333 (1969), DDC AD-694136                      |
| 3465 | The Strange Story of the OH Molecule in Interstellar Space   | J. M. Moran  | Accepted Science J.  |
| 3467 | Absolute Experimental X-Ray Form Factor of Aluminum  | P. M. Raccach<br>V. E. Heinrich  | Accepted Phys. Rev.  |
| 3468 | Magnetospectroscopy of Shallow Donors in GaAs  | G. E. Stillman<br>C. M. Wolfe<br>J. O. Dimmock   | Solid State Commun. <u>7</u> , 921 (1969)                                      |
| 3470 | Spin-Polarized Splittings in the Temperature-Dependent Reflectance of EuO                                    | J. Feinleib<br>W. J. Scouler<br>J. O. Dimmock<br>J. Hanus<br>T. B. Reed<br>C. R. Pidgeon           | Phys. Rev. Letters <u>22</u> , 1385 (1969)                                     |
| 3474 | Polaron Zeeman Effect in AgBr  | R. C. Brandt<br>D. M. Larsen<br>P. P. Crooker<br>G. B. Wright                                      | Phys. Rev. Letters <u>23</u> , 240 (1969), DDC AD-694139                       |
| 3476 | Direct Observation of the Lorentzian Line Shape as Limited by Quantum Phase Noise in a Laser above Threshold | E. D. Hinkley<br>C. Freed  | Phys. Rev. Letters <u>23</u> , 277 (1969), DDC AD-694147                       |
| 3485 | Velocity and Attenuation of Hypersonic Waves in Liquid Nitrogen  | A. S. Pine   | Accepted J. Chem. Phys.  |
| 3486 | A Beam Lead Substrate Package for a Six Stage TTL Shift Register   | F. Bachner<br>R. A. Cohen<br>R. Mountain<br>R. E. McMahon  | Accepted <u>Microelectronics and Reliability</u> , Vol. 8 (Pergamon, New York) |
| 3489 | Venus: Mapping the Surface Reflectivity by Radar Interferometry  | A. E. E. Rogers<br>R. P. Ingalls   | Science <u>165</u> , 797 (1969)  |
| 3490 | Hydroxyl and Water Masers in Protostars  | M. M. Litvak   | Science <u>165</u> , 855 (1969)  |
| 3491 | Perturbation of the Refractive Index of Absorbing Media by a Pulsed Laser Beam                               | P. R. Longaker<br>M. M. Litvak   | Accepted J. Appl. Phys.  |
| 3493 | Water Vapor: Observations of Galactic Sources  | M. L. Meeks<br>J. C. Carter<br>A. H. Barrett<br>P. R. Schwartz<br>J. W. Waters<br>W. E. Brown, III | Science <u>165</u> , 180 (1969)  |

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| 3497 | New Electron Spin Waves in<br>Nonmagnetic Conductors  | F. A. Blum   | Phys. Rev. Letters <u>23</u> , 73 (1969),<br>DDC AD-694146 |
| 3507 | Magnetic Field Dependence of<br>Laser Emission in $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$<br>Diodes | A. R. Calawa<br>J. O. Dimmock<br>T. C. Harman<br>I. Melngailis | Phys. Rev. Letters <u>23</u> , 7 (1969),<br>DDC AD-694137  |
| 3542 | An Algol-Based Associative<br>Language  | J. A. Feldman<br>P. D. Rovner                                  | Commun. ACM <u>12</u> , 439 (1969)                         |

# MEETING SPEECHES

MS No.			
703	Time-Optimal Velocity Control of a Spinning Space Body	M. Athans P. L. Falb R. T. Lacoss	Trans. IEEE, Appl. and Indust. <u>82</u> , 206 (1963), DDC AD-659542
710	Minimum-Fuel Control of Second-Order Systems with Real Poles	M. Athans	Trans. IEEE, Appl. and Indust. <u>83</u> , 148 (1964), DDC AD-658998
895	Rapid-Freeze Method for Growth of Bismuth Single Crystals	S. Fischler	Trans. Met. Soc. AIME <u>230</u> , 340 (1964), DDC AD-614318
946	Effects of High-Pressure, High-Temperature Treatment on the Properties of Electronic Materials	E. P. Warekois	Special Technical Publication No. 374, ASTM (1965), DDC AD-618452
989	The Phase Transition Region of $\text{PrO}_{1.5}$	D. S. Chapin M. C. Finn J. M. Honig	Proc. Fourth Rare Earth Conf., Tempe, Arizona, Apr. 1964, DDC AD-642212
1110A	Principles of Injection Lasers	R. H. Rediker	Chpt. 13 of <u>Optical and Electro-Optical Information Processing</u> (MIT Press, Cambridge, 1965)
1126	Separation of Gyromagnetic from Gyroelectric Optical Effects in Ferromagnets	D. O. Smith	Proc. Intl. Conf. on Magnetism, Nottingham, Sept. 1964
1128	Static and Dynamic Theory of Magnetic Fine Structure in Thin Films	K. J. Harte	Proc. Intl. Conf. on Magnetism, Nottingham, Sept. 1964
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53	Millstone L-Band Monopulse Radar Antenna System Preventive and Corrective Maintenance Procedures	3 Dec. 1963	AD-443480
54	TRADEX Data Evaluation	1 Apr. 1964	AD-443423
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60	LILAPS: Lincoln Laboratory Analyses of Paraboloidal Shells	12 Nov. 1964	AD-614818
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